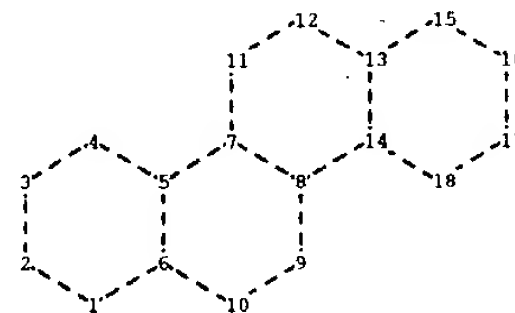
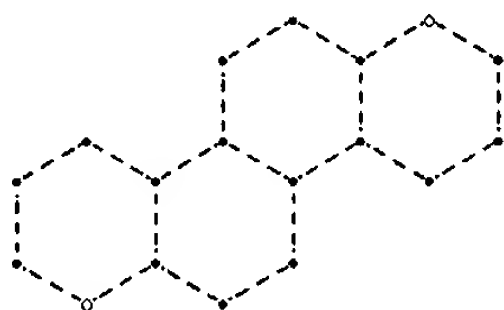


Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	109	(549/384).CCLS.	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	OFF	2004/09/07 17:10



ring nodes :  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18  
ring bonds :  
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 7-11 8-9 8-14 9-10 11-12  
12-13 13-14 13-15 14-18 15-16 16-17 17-18  
exact/norm bonds :  
1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 7-11 8-9 8-14 9-10 11-12  
12-13 13-14 13-15 14-18 15-16 16-17 17-18  
isolated ring systems :  
containing 1 :

Match level :  
1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom  
10:Atom 11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom  
18:Atom

=> ....Testing the current file.... screen

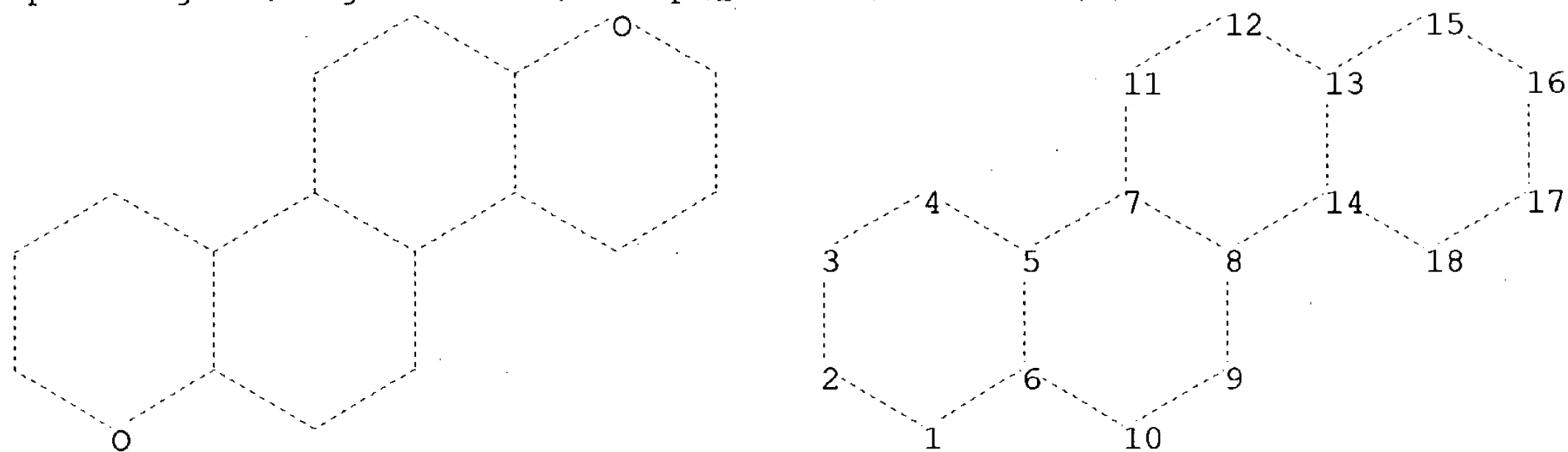
ENTER SCREEN EXPRESSION OR (END):end

=> screen 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047

L1 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09819705 (a).str



ring nodes :

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 7-11 8-9 8-14 9-10 11-12 12-13  
13-14 13-15 14-18 15-16 16-17 17-18

exact/norm bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-10 7-8 7-11 8-9 8-14 9-10 11-12 12-13  
13-14 13-15 14-18 15-16 16-17 17-18

isolated ring systems :

containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
11:Atom 12:Atom 13:Atom 14:Atom 15:Atom 16:Atom 17:Atom 18:Atom

L2 STRUCTURE UPLOADED

=> que L2 NOT L1

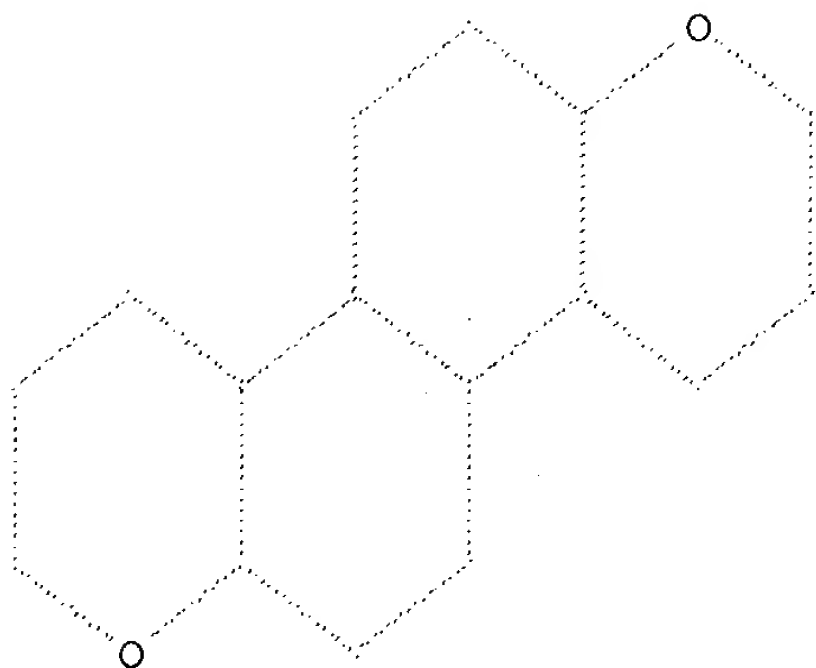
L3 QUE L2 NOT L1

=> d 13

L3 HAS NO ANSWERS

L1 SCR 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047

L2 STR



Structure attributes must be viewed using STN Express query preparation.  
 L3 QUE L2 NOT L1

=> s l3 sss sam  
 SAMPLE SEARCH INITIATED 17:05:35 FILE 'REGISTRY'  
 SAMPLE SCREEN SEARCH COMPLETED - 1779 TO ITERATE

56.2% PROCESSED 1000 ITERATIONS 1 ANSWERS  
 INCOMPLETE SEARCH (SYSTEM LIMIT EXCEEDED)  
 SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
 BATCH \*\*COMPLETE\*\*  
 PROJECTED ITERATIONS: 33050 TO 38110  
 PROJECTED ANSWERS: 1 TO 115

L4 1 SEA SSS SAM L2 NOT L1

=> => s l3 sss ful  
 FULL SEARCH INITIATED 17:06:04 FILE 'REGISTRY'  
 FULL SCREEN SEARCH COMPLETED - 35387 TO ITERATE

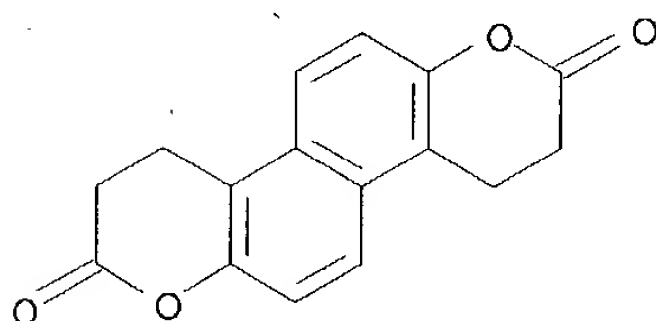
100.0% PROCESSED 35387 ITERATIONS 34 ANSWERS  
 SEARCH TIME: 00.00.01

L5 34 SEA SSS FUL L2 NOT L1

=> => s l5  
 L6 14 L5

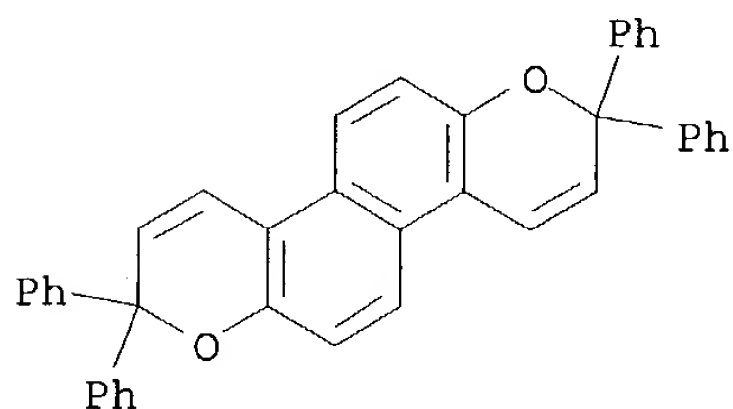
=> d l6 1-14 bib,ab,hitstr

L6 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2004:290794 CAPLUS  
DN 141:23321  
TI Inhibitors of Sir2: Evaluation of Splitomicin Analogues  
AU Posakony, Jeff; Hirao, Maki; Stevens, Sam; Simon, Julian A.; Bedalov, Antonio  
CS Clinical Research and Human Biology Divisions, Fred Hutchinson Cancer Research Center, Seattle, WA, 98109, USA  
SO Journal of Medicinal Chemistry (2004), 47(10), 2635-2644  
CODEN: JMCMAR; ISSN: 0022-2623  
PB American Chemical Society  
DT Journal  
LA English  
AB Splitomicin and 41 analogs were prepared and evaluated in cell-based Sir2 inhibition and toxicity assays and an in vitro Sir2 inhibition assay. Lactone ring or naphthalene (positions 7-9) substituents decrease activity, but other naphthalene substitutions (positions 5 and 6) are well-tolerated. The hydrolytically unstable aromatic lactone is important for activity. Lactone hydrolysis rates were used as a measure of reactivity; hydrolysis rates correlate with inhibitory activity. The most potent Sir2 inhibitors were structurally similar to and had hydrolysis rates similar to splitomicin.  
IT **697249-50-6P**  
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)  
(preparation of splitomicin analogs as inhibitors of Sir2 and correlation of lactone hydrolysis rates to inhibitory activity)  
RN 697249-50-6 CAPLUS  
CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dione, 3,4,9,10-tetrahydro- (9CI) (CA INDEX NAME)

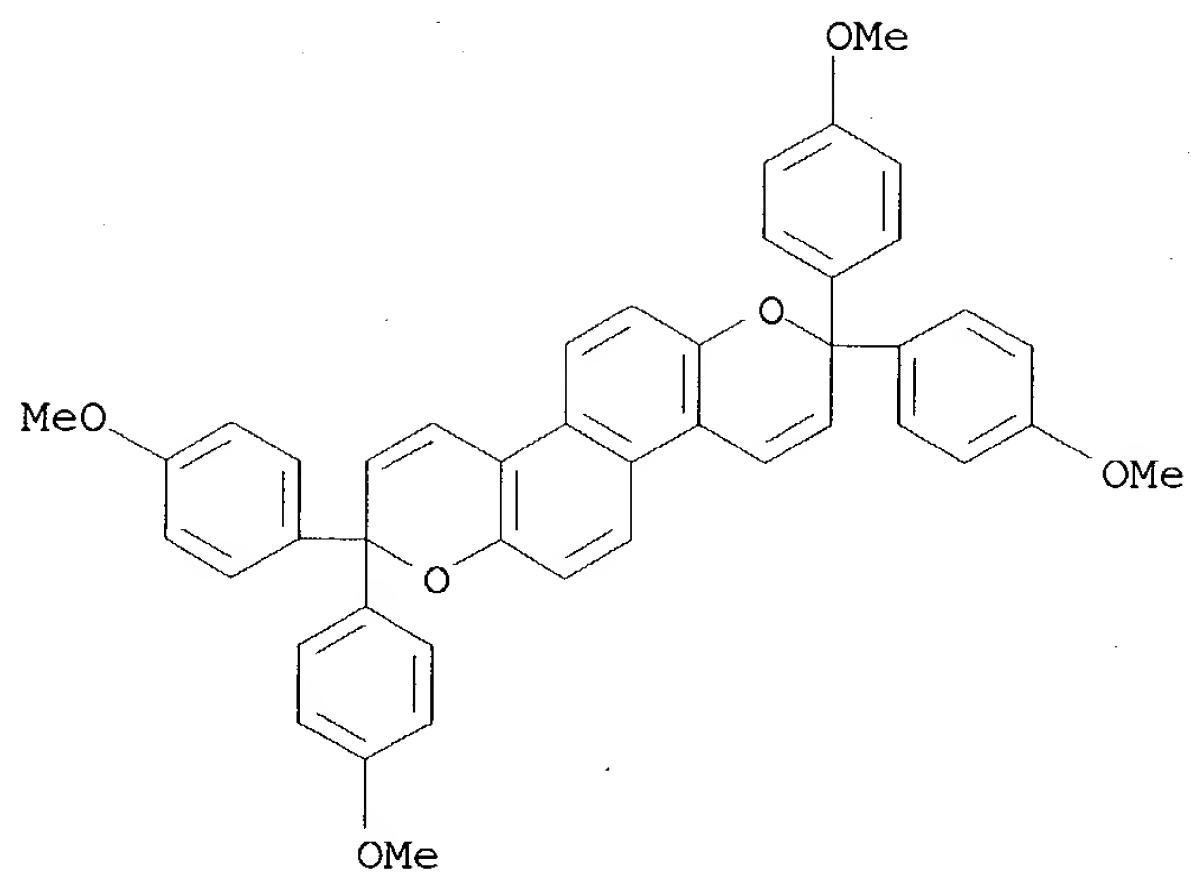


RE.CNT 18 THERE ARE 18 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 2003:784845 CAPLUS  
 DN 139:382773  
 TI Facile one-pot synthesis of photochromic pyrans  
 AU Zhao, Weili; Carreira, Erick M.  
 CS Laboratorium fuer Organische Chemie, ETH-Hoenggerberg, Zurich, CH-8093, Switz.  
 SO Organic Letters (2003), 5(22), 4153-4154  
 CODEN: ORLEF7; ISSN: 1523-7060  
 PB American Chemical Society  
 DT Journal  
 LA English  
 OS CASREACT 139:382773  
 AB Photochromic pyrans, including [3H]naphtho[2,1-b]pyrans, [2H]naphtho[1,2-b]pyrans, indeno-fused naphtho[1,2-b]pyrans, and heteroannulated pyrans, were synthesized in excellent yields through a facile one-pot procedure by reaction of propargyl alc. and naphthol or phenol derivs. in the presence of 5 mol % PPTS and 2 equiv of (MeO)<sub>3</sub>CH as dehydrating agent. Sym. and nonsym. bispyrans can also be prepared using the protocol.  
 IT 164255-06-5P 623580-46-1P 623580-47-2P  
 623580-48-3P 623580-49-4P 623580-50-7P  
 623580-51-8P 623580-52-9P  
 RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
 (dye; facile one-pot preparation of photochromic pyrans)  
 RN 164255-06-5 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran, 2,8-dihydro-2,2,8,8-tetraphenyl- (9CI) (CA INDEX NAME)

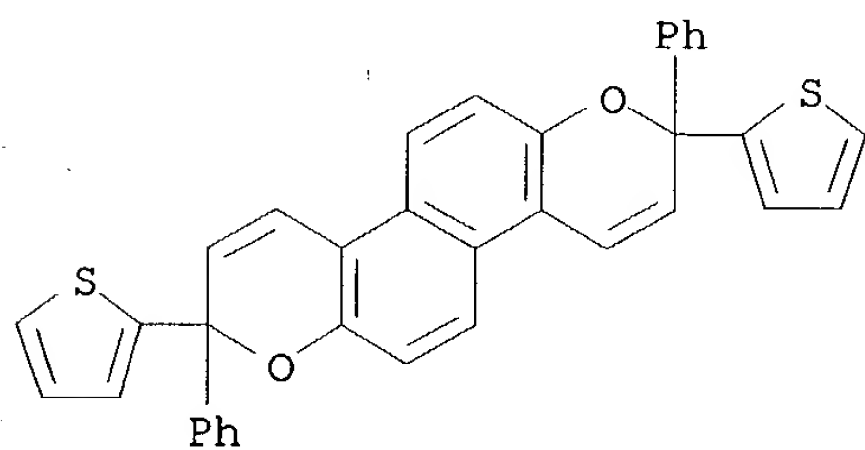


RN 623580-46-1 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran, 2,8-dihydro-2,2,8,8-tetrakis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



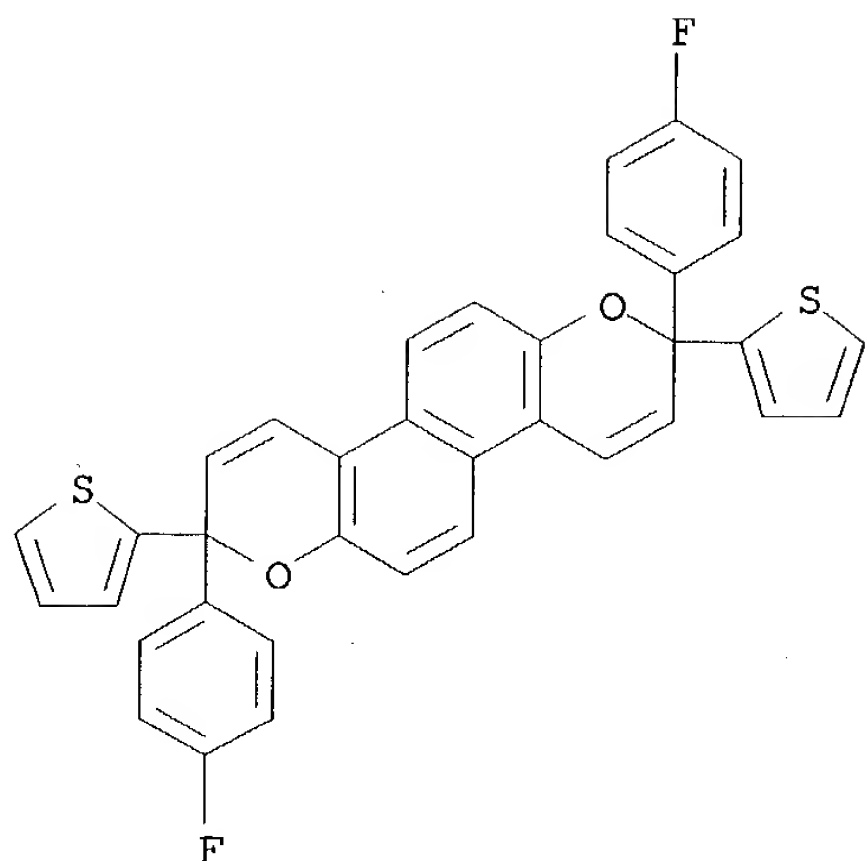
RN 623580-47-2 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-dihydro-2,8-diphenyl-2,8-di-2-thienyl-  
(9CI) (CA INDEX NAME)



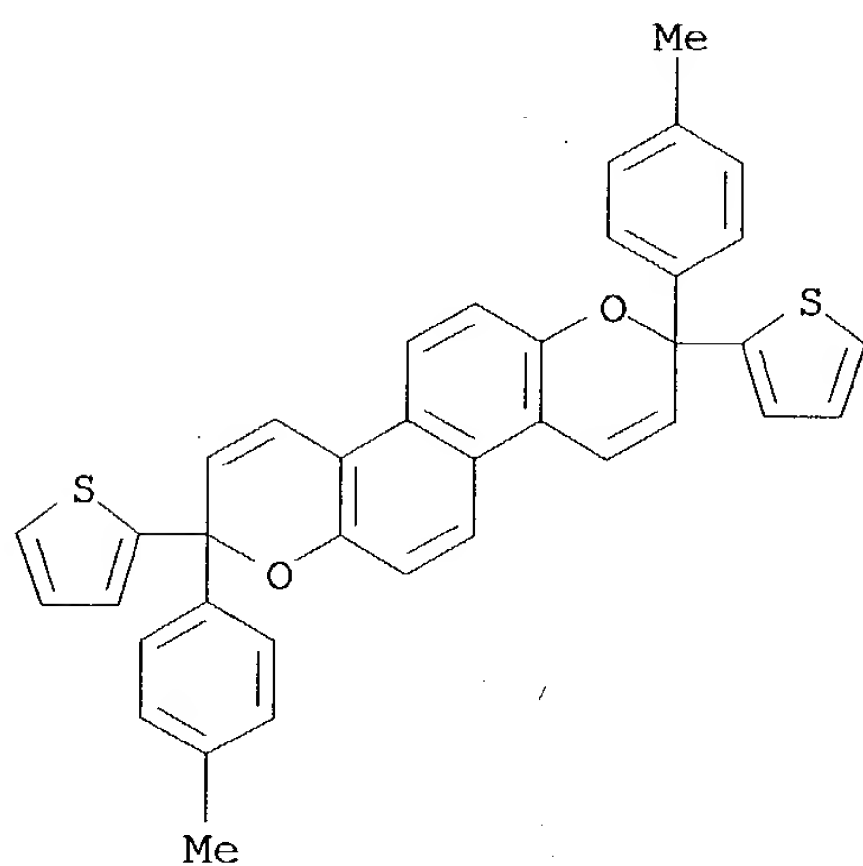
RN 623580-48-3 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-bis(4-fluorophenyl)-2,8-dihydro-2,8-di-2-thienyl-  
(9CI) (CA INDEX NAME)



RN 623580-49-4 CAPLUS

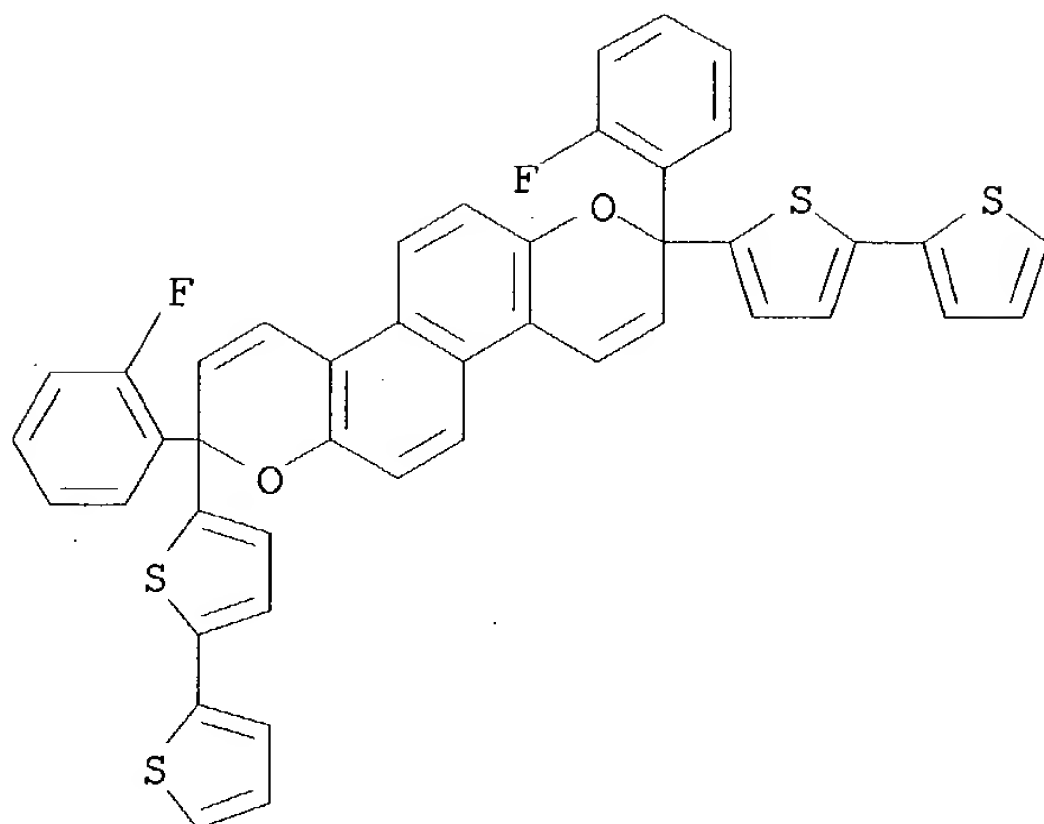
CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-dihydro-2,8-bis(4-methylphenyl)-2,8-di-2-thienyl- (9CI) (CA INDEX NAME)



RN 623580-50-7 CAPLUS

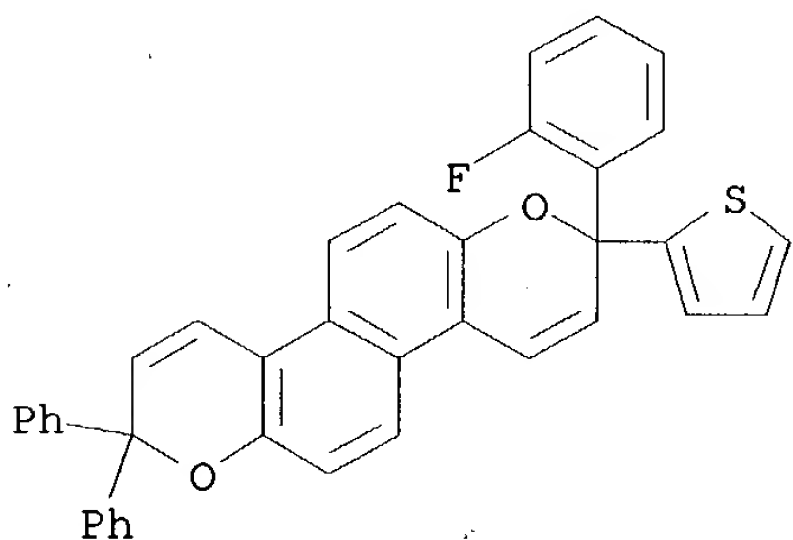
CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-bis([2,2'-bithiophen]-5-yl)-2,8-bis(2-fluorophenyl)-2,8-dihydro- (9CI) (CA INDEX NAME)





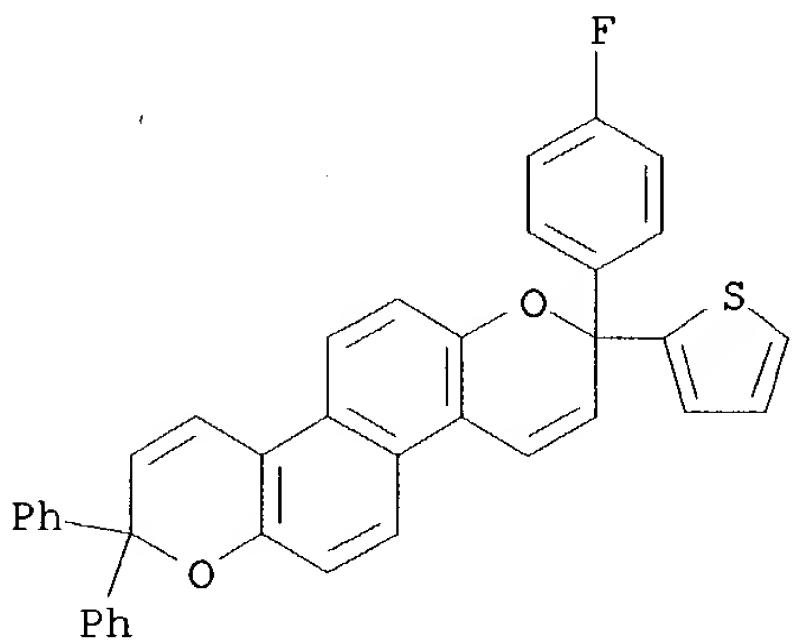
RN 623580-51-8 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans, 2-(2-fluorophenyl)-2,8-dihydro-8,8-diphenyl-2-(2-thienyl)- (9CI) (CA INDEX NAME)



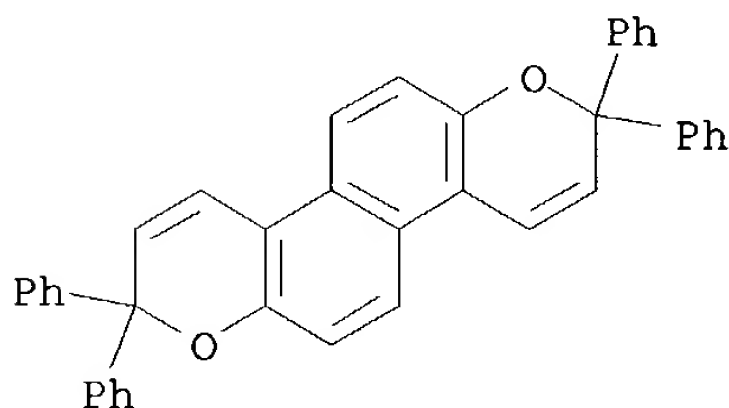
RN 623580-52-9 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans, 2-(4-fluorophenyl)-2,8-dihydro-8,8-diphenyl-2-(2-thienyl)- (9CI) (CA INDEX NAME)



RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD

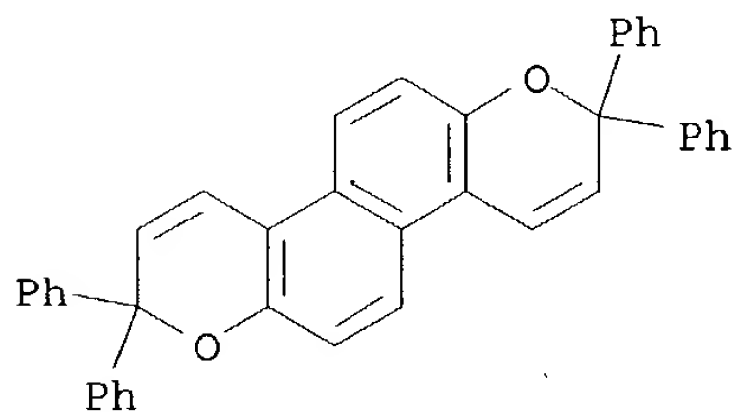
L6 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 2000:396985 CAPLUS  
DN 133:193050  
TI One-Pot Synthesis of Photochromic Naphthopyrans in the Solid State  
AU Tanaka, Koichi; Aoki, Hiroko; Hosomi, Hiroyuki; Ohba, Shigeru  
CS Department of Applied Chemistry Faculty of Engineering, Ehime University,  
Matsuyama Ehime, 790-8577, Japan  
SO Organic Letters (2000), 2(14), 2133-2134  
CODEN: ORLEF7; ISSN: 1523-7060  
PB American Chemical Society  
DT Journal  
LA English  
OS CASREACT 133:193050  
AB P-TsOH-catalyzed condensation reactions of 1,1-diaryl-2-propyn-1-ols (I)  
and 2-naphthol in the solid state gave 3,3-diaryl-3H-naphtho[2,1-b]pyrans  
via Claisen rearrangement. Similar reactions of I with 2,6- and  
2,7-dihydroxynaphthalene afforded naphthodipyrans derivs., e.g., II and  
III, resp. Bis-naphthopyran derivs. were also obtained by reaction of  
1,1,6,6-tetraaryl-2,5-hexadiyne-1,6-diols with 2-naphthol in the solid  
state.  
IT **164255-06-5P**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(one-pot synthesis of photochromic naphthopyrans in solid state)  
RN 164255-06-5 CAPLUS  
CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-dihydro-2,2,8,8-tetraphenyl- (9CI) (CA  
INDEX NAME)



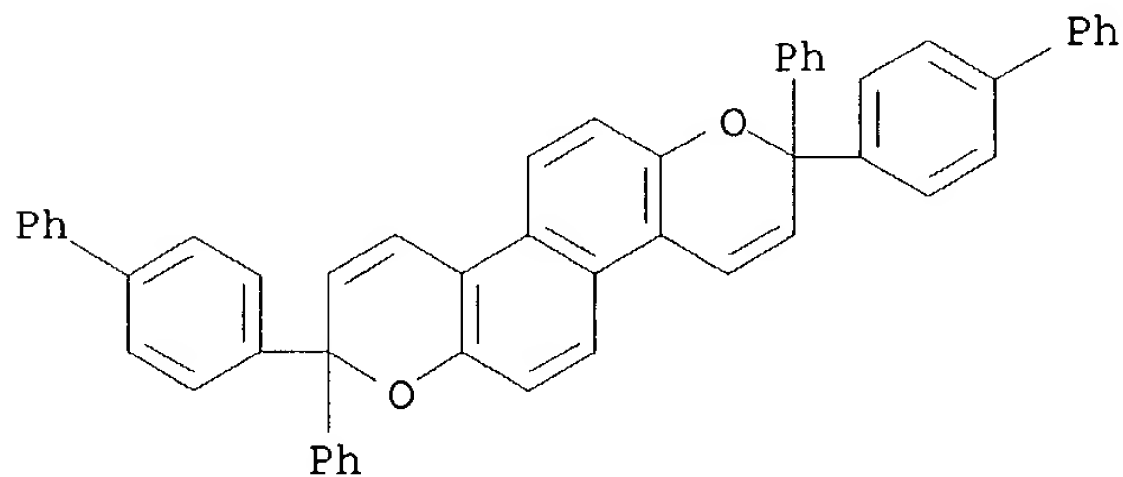
RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L6 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1998:779439 CAPLUS  
 DN 130:31228  
 TI Photochromic article  
 IN Hughes, Frank J.  
 PA Vision-Ease Lens, Inc., USA  
 SO U.S., 10 pp., Cont. of U.S. Ser. No. 477,137, abandoned.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5840926	A	19981124	US 1997-895655	19970717
	US 5847168	A	19981208	US 1997-980724	19971201
PRAI	US 1995-477137		19950607		
	US 1997-895655		19970717		
OS	MARPAT 130:31228				
AB	A photochromic article comprises a host material and a photochromic amount of a naphthopyran compound represented by the formula I (R1-24 = a stable organic radical, a heterocyclic group, a halogen atom, a nitrogen-substituted group, or a nitrogen-substituted ring group).				
IT	<b>164255-06-5P 216444-49-4P 216444-52-9P</b> RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (preparation and use as photochromic compound)				
RN	164255-06-5 CAPLUS				
CN	Naphtho[2,1-b:6,5-b']dipyrans, 2,8-dihydro-2,2,8,8-tetraphenyl- (9CI) (CA INDEX NAME)				

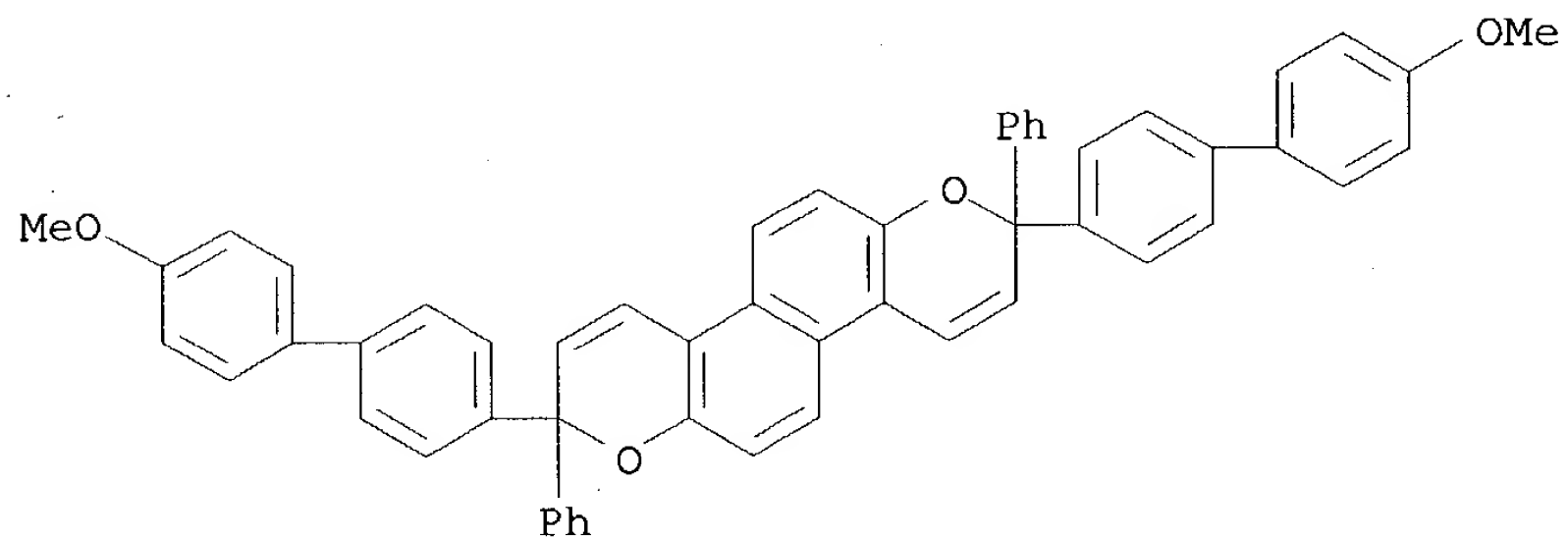


RN 216444-49-4 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-bis([1,1'-biphenyl]-4-yl)-2,8-dihydro-2,8-diphenyl- (9CI) (CA INDEX NAME)



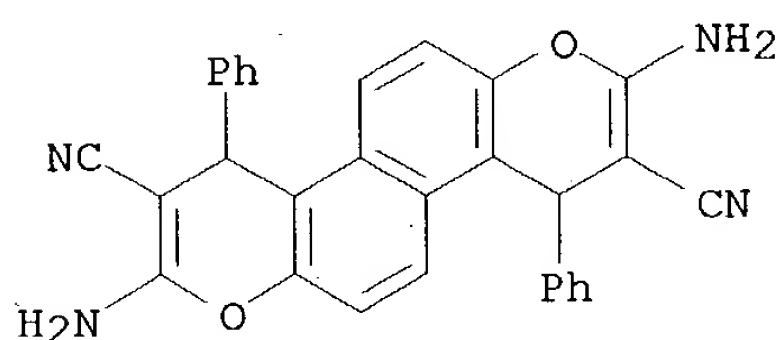
RN 216444-52-9 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-dihydro-2,8-bis(4'-methoxy[1,1'-biphenyl]-4-yl)-2,8-diphenyl- (9CI) (CA INDEX NAME)

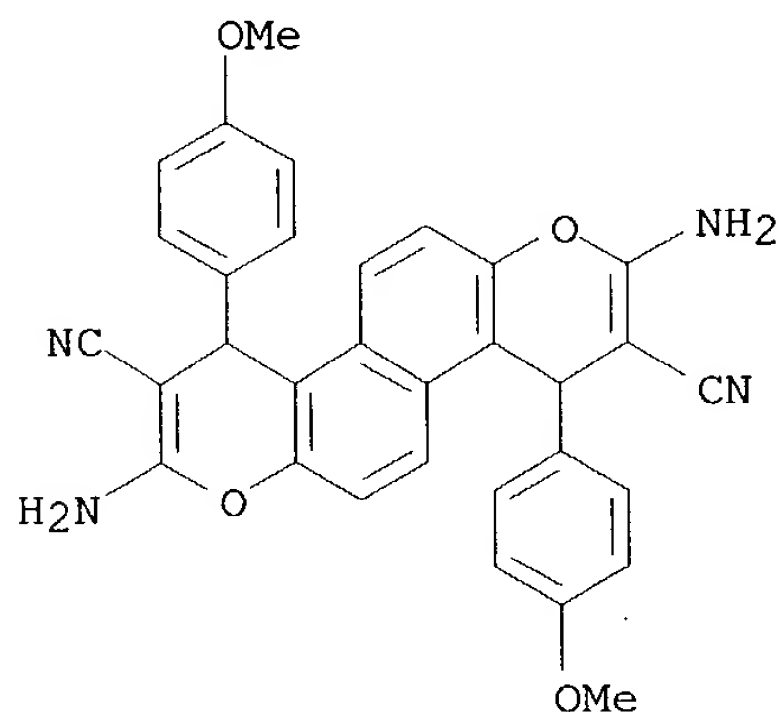


RE.CNT 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

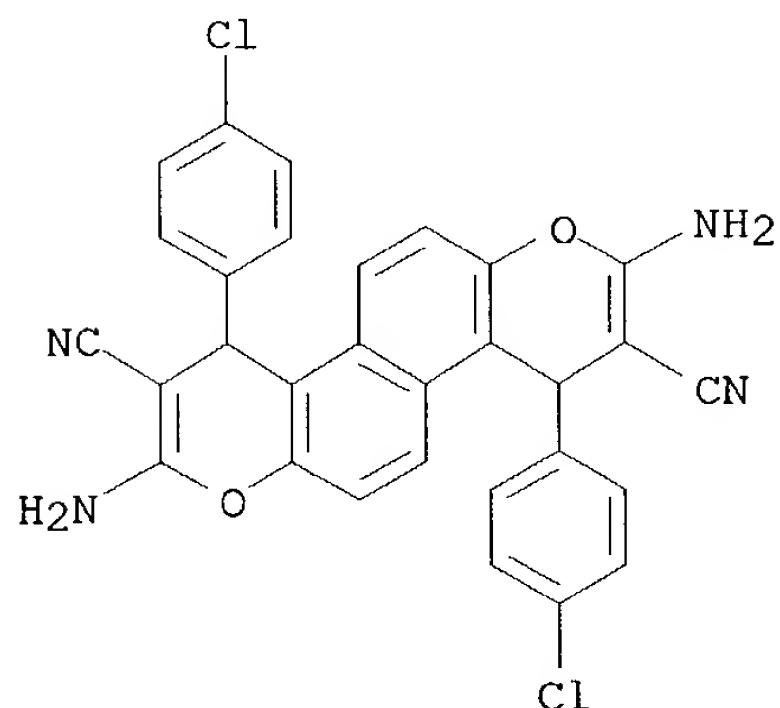
L6 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:424238 CAPLUS  
 DN 125:114568  
 TI Synthesis of 4H-naphtho[1,2-b]pyrans, benzo[h]coumarins,  
 4H-naphtho[2,1-b:6,5-b']dipyrans 4H-naphtho[1,2-b:3,4-b']dipyrans and  
 pyridine derivatives  
 AU Mohamed Abd El Aziz El-Taweel, F.; El-Din Nasr Ayyad, Saif; Ghani Ali  
 Elagmey, Abdel; Zaki Ahmed Sowellim, Salah  
 CS Fac Science, New Damietta, Egypt  
 SO Anales de Quimica (1995), 91(7-8), 589-593  
 CODEN: ANQUEX; ISSN: 1130-2283  
 PB Real Sociedad Espanola de Quimica  
 DT Journal  
 LA English  
 AB The reaction of (phenylmethylene)propanedinitriles with  
 1,6-naphthalenediol gave enamionaphthopyrans I (R = H, OMe, Cl). The  
 reaction of (arylidene)cynoacetate with 1,6-naphthalenediol gave  
 benzocoumarins. The naphthodipyrans such as II (X = cyano,  
 ethoxycarbonyl; R = H, OMe, Cl) were also prepared  
 IT **179125-54-3P 179125-55-4P 179125-56-5P**  
**179125-57-6P 179125-58-7P 179125-59-8P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of naphthopyrans, benzocoumarins, naphthodipyrans or pyridine  
 derivs.)  
 RN 179125-54-3 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dicarbonitrile, 3,9-diamino-1,7-diphenyl-  
 (9CI) (CA INDEX NAME)



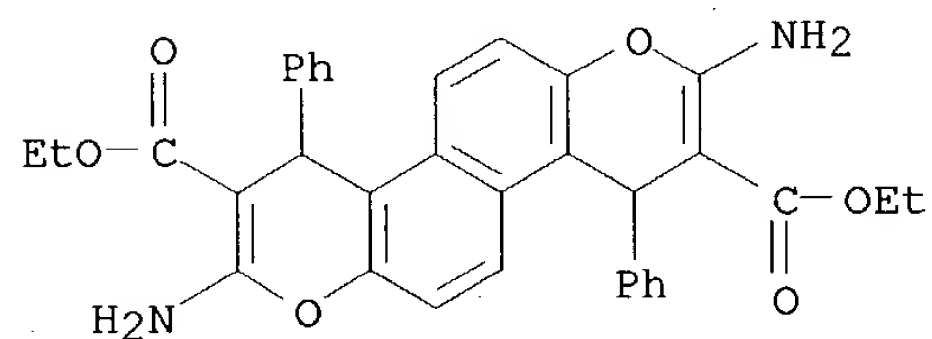
RN 179125-55-4 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dicarbonitrile, 3,9-diamino-1,7-bis(4-  
 methoxyphenyl)- (9CI) (CA INDEX NAME)



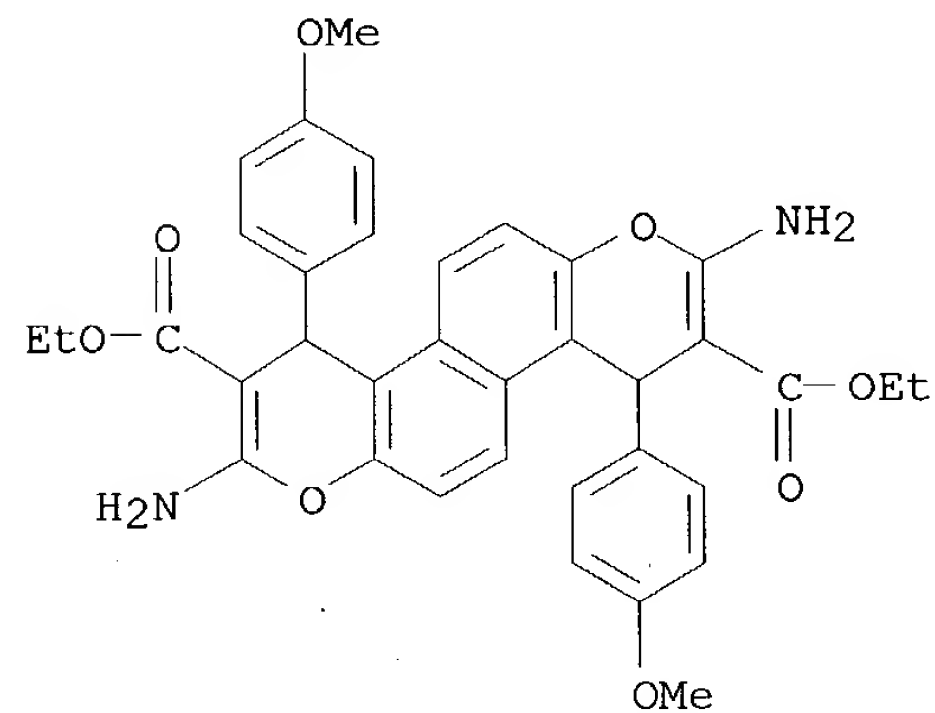
RN 179125-56-5 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dicarbonitrile, 3,9-diamino-1,7-bis(4-chlorophenyl)- (9CI) (CA INDEX NAME)



RN 179125-57-6 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dicarboxylic acid, 3,9-diamino-1,7-diphenyl-, diethyl ester (9CI) (CA INDEX NAME)

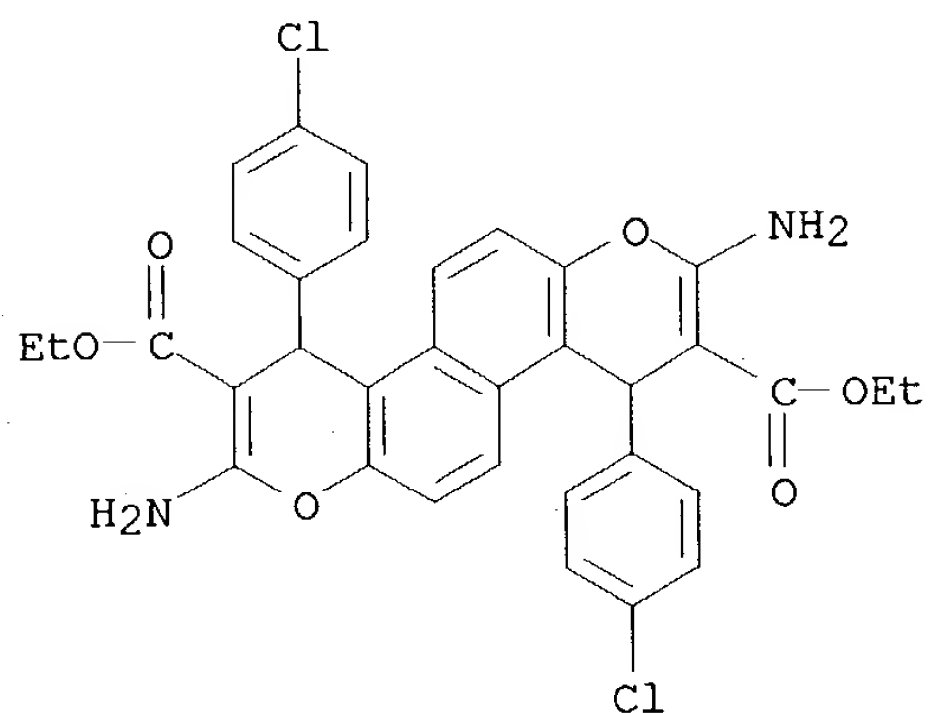


RN 179125-58-7 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dicarboxylic acid, 3,9-diamino-1,7-bis(4-methoxyphenyl)-, diethyl ester (9CI) (CA INDEX NAME)

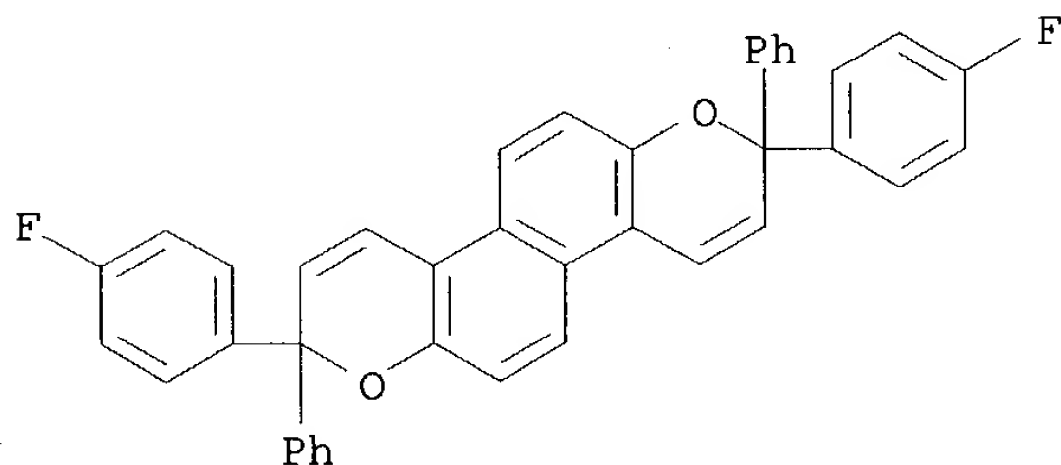


RN 179125-59-8 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dicarboxylic acid, 3,9-diamino-1,7-bis(4-chlorophenyl)-, diethyl ester (9CI) (CA INDEX NAME)



L6 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1996:26977 CAPLUS  
 DN 124:201496  
 TI Complete assignments of the  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectras of some fluoro-substituted chromenes  
 AU Barberis, Claude; Campredon, Mylene; Lokshin, Vladimir; Giusti, Gerard; Faure, Robert  
 CS Universite d'Aix-Marseille II, Marseille, 13288, Fr.  
 SO Magnetic Resonance in Chemistry (1995), 33(12), 977-8  
 CODEN: MRCHEG; ISSN: 0749-1581  
 PB Wiley  
 DT Journal  
 LA English  
 AB The total assignment of the  $^1\text{H}$  and  $^{13}\text{C}$  NMR spectra of four fluoro-substituted chromenes was deduced from the concerted application of homonuclear correlation (COSY),  $^1\text{H}$ -detected 1-bond heteronuclear multiple quantum coherence (HMQC) and long-range (two and three bonds) heteronuclear multiple bond connectivity (HMBC) expts. The 4 chromenes are 3-(4'-fluorophenyl)-3-phenyl-[3H]-naphtho[2,1-b]pyran, 3,3-di(4'-fluorophenyl)-[3H]-naphtho[2,1-b]pyran, 7-(4'-fluorophenyl)-7-phenyl-[7H]-benzofurano[2,3-g]chromene and 3,9-(4'-fluorophenyl)-3,9-diphenyl-[3H][9H]-naphtho[2,1-b]pyran.  
 IT **174312-51-7**  
 RL: PRP (Properties)  
 (proton and carbon-13 NMR assignments for)  
 RN 174312-51-7 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-bis(4-fluorophenyl)-2,8-dihydro-2,8-diphenyl- (9CI) (CA INDEX NAME)





L6 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:988283 CAPLUS  
 DN 124:131620  
 TI Photochromic tetraphenyl naphthodipyrans  
 IN Knowles, David B.; Gemert, Barry V.  
 PA Transitions Optical, Inc., USA  
 SO U.S., 8 pp.  
 CODEN: USXXAM  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5464567	A	19951107	US 1994-225033	19940408
PRAI	US 1994-225033		19940408		

OS MARPAT 124:131620

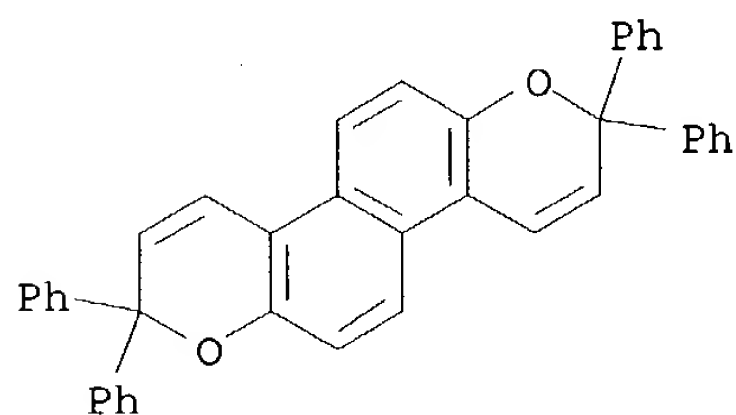
AB Described are reversible photochromic naphthopyran compds. which have two Ph moieties adjacent to each oxygen of each pyran ring. The substituents on each pair of Ph moieties mirror one another when the Ph groups are substituted. The naphthodipyranes are prepared from  $\beta,\beta$ -dihydroxynaphthalene compds.

IT **164255-06-5P**

RL: DEV (Device component use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)  
 (photochromic substance for ophthalmic lens)

RN 164255-06-5 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyran, 2,8-dihydro-2,2,8,8-tetraphenyl- (9CI) (CA INDEX NAME)



L6 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:947059 CAPLUS  
 DN 124:145902  
 TI Photochromic heterocycle-fused naphtho[2,1-b]pyran compounds  
 IN Knowles, David B.; Van Gemert, Barry  
 PA Transitions Optical, Inc., USA  
 SO U.S., 18 pp.  
 CODEN: USXXAM

DT Patent  
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 5451344	A	19950919	US 1994-225022	19940408
	WO 9527914	A1	19951019	WO 1995-US4375	19950407
	W: JP				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 755527	A1	19970129	EP 1995-916270	19950407
	EP 755527	B1	20000315		
	R: CH, DE, ES, FR, GB, IE, IT, LI, NL				
	JP 09508644	T2	19970902	JP 1995-526483	19950407
	JP 2948320	B2	19990913		
	ES 2145911	T3	20000716	ES 1995-916270	19950407
	US 5565147	A	19961015	US 1995-459432	19950602
	US 5674432	A	19971007	US 1995-459433	19950602
PRAI	US 1994-225022	A	19940408		
	WO 1995-US4375	W	19950407		

OS MARPAT 124:145902

AB Described are novel reversible photochromic diaryl-3H-naphtho[2,1-b]pyran compds. having a substituted or unsubstituted, five or six member heterocyclic ring fused to the g, i, or l side of the naphthopyran [I; wherein fused heterocyclic ring = II or III wherein wavy lines indicate ring fusion, X is an oxygen or a nitrogen atom, said nitrogen atom being substituted with a hydrogen or C1-C4 alkyl, R1 is hydrogen, C1-C6 alkyl, substituted or unsubstituted Ph, carboxy, or C1-C6 alkoxy carbonyl; R2 is hydrogen, C1-C6 alkyl, or substituted or unsubstituted phenyl; R3 and R4 are each hydrogen, C1-C6 alkyl, or phenyl; R5 and R6 are each hydrogen, C1-C6 alkyl, Ph, hydroxy, C1-C6 alkoxy, or acetoxy; said Ph substituents being C1-C5 alkyl; and (b) B and B' are each selected from the group consisting of the substituted or unsubstituted aryl groups Ph and naphthyl, said aryl substituents being selected from the group consisting of hydroxy, C1-C5 alkyl, C1-C5 haloalkyl, C1-C5 alkoxy, C1-C5 alkoxy(C1-C4)alkyl, C1-C5 dialkylamino, acryloxy, methacryloxy, and halogen, said halogen or (halo) groups being fluoro, chloro, or bromo]. Also described are organic host materials containing such compds. Articles

such

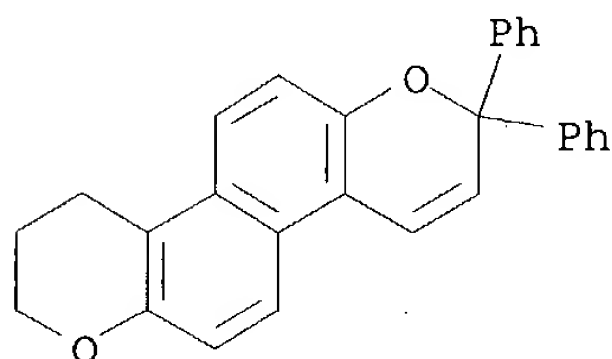
as ophthalmic lenses or other plastic transparencies that incorporate the novel naphthopyran compds. or combinations thereof with complementary photochromic compds., e.g., spiro(indoline)oxazine-type compds., are also described. Thus, e.g., coupling of 1,1-diphenyl-2-propyn-1-ol with 1,2-dihydro-7-hydroxy-2-methylnaphtho[2,1-b]furan (preparation given) in presence of catalytic dodecylbenzenesulfonic acid afforded 7,7-diphenyl-7H-2-methyl-2,3-dihydrofuro[3',2':5,6]naphtho[2,1-b]pyran (IV) which exhibited  $\Delta OD/min$  (sensitivity of response of photochromic compound to UV light) = 1.35,  $\lambda_{max}(vis)$  (visible  $\lambda_{max}$  for absorption of the colored form) = 488 nm, and bleach rate  $t_{1/2}$  = 106 s vs. 0.87, 430 nm, and 45 s, resp., for 3,3-diphenyl-8-methoxy-3H-naphtho[2,1-b]pyran.

IT 173301-15-0P 173301-16-1P 173301-17-2P

RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)  
(photochromic heterocycle-fused naphtho[2,1-b]pyran compds.)

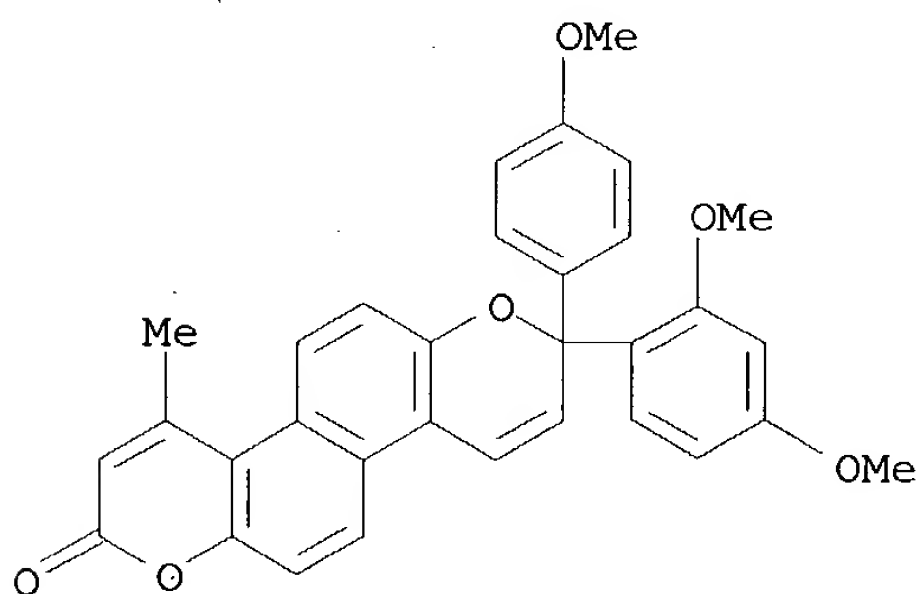
RN 173301-15-0 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8,9,10-tetrahydro-2,2-diphenyl- (9CI) (CA INDEX NAME)



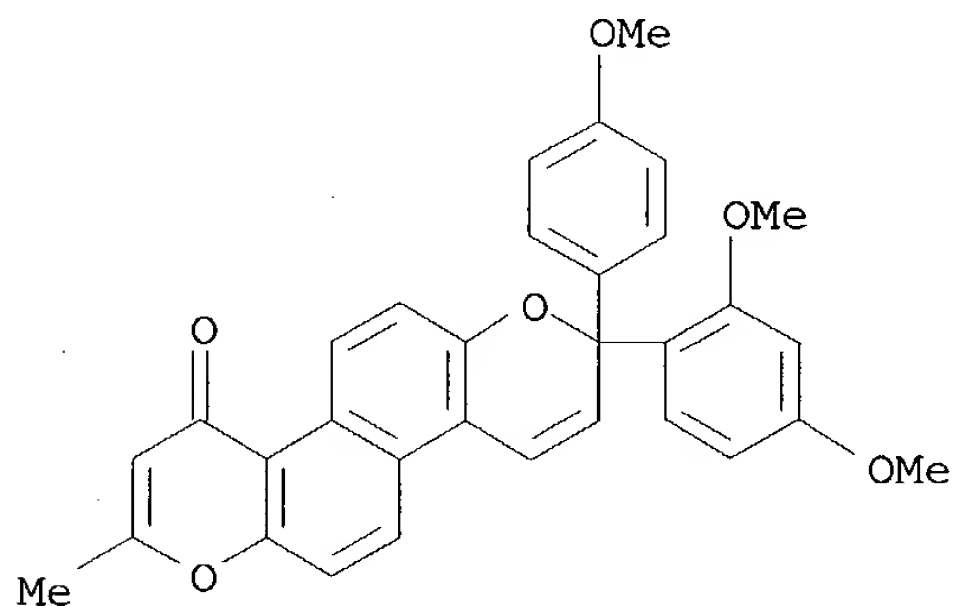
RN 173301-16-1 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans-2(8H)-one, 8-(2,4-dimethoxyphenyl)-8-(4-methoxyphenyl)-4-methyl- (9CI) (CA INDEX NAME)



RN 173301-17-2 CAPLUS

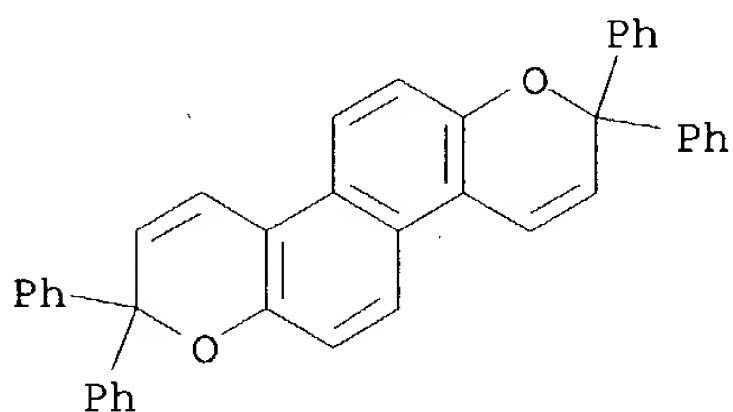
CN Naphtho[2,1-b:6,5-b']dipyrans-4(8H)-one, 8-(2,4-dimethoxyphenyl)-8-(4-methoxyphenyl)-2-methyl- (9CI) (CA INDEX NAME)



L6 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1995:643265 CAPLUS  
 DN 123:44081  
 TI Photochromic compounds  
 IN Melzig, Manfred; Zinner, Herbert  
 PA Optische Werke G. Rodenstock, Germany  
 SO PCT Int. Appl., 27 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA German  
 FAN.CNT 1

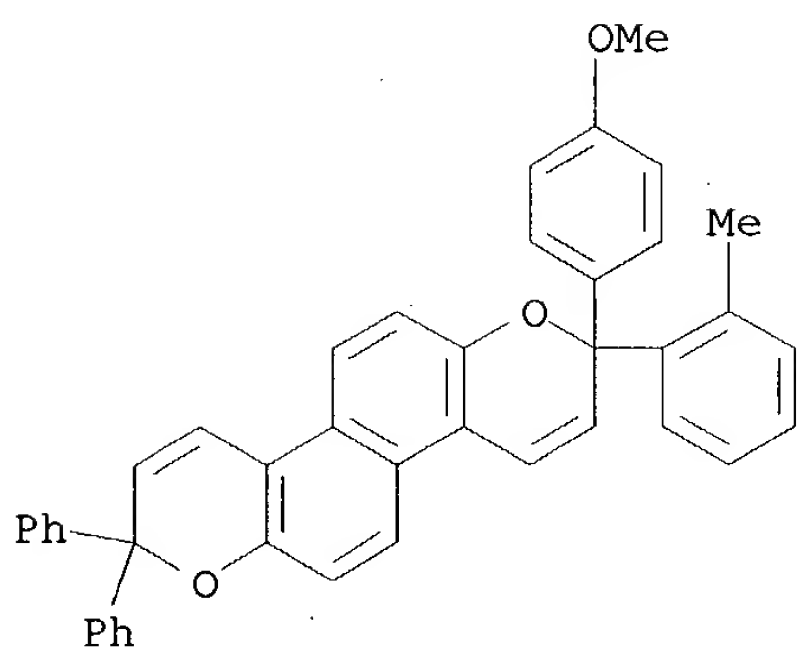
*Appl.* *PCF*

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9500519	A1	19950105	WO 1994-DE737	19940628
	W: JP, US				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	EP 706526	A1	19960417	EP 1994-918743	19940628
	EP 706526	B1	20030917		
	R: DE, ES, FR, GB, IT				
	JP 08511778	T2	19961210	JP 1994-502337	19940628
	US 2003045714	A1	20030306	US 2001-819705	20010329
PRAI	DE 1993-4321487	A	19930628		
	WO 1994-DE737	W	19940628		
	US 1996-578583	B3	19960417		
	US 1997-888540	B3	19970707		
	US 1999-259052	A3	19990301		
AB	Photochromic compds. are described for which the mols. incorporate $\geq 2$ photochromic subsystems which are not indolinospiropyran. In particular, the materials are useful in the coloring of transparent elements made of plastic material.				
IT	<b>164255-06-5P 164255-08-7P</b> RL: PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses) (photochromic compds. with nonindolinospiropyran components)				
RN	164255-06-5 CAPLUS				
CN	Naphtho[2,1-b:6,5-b']dipyran, 2,8-dihydro-2,2,8,8-tetraphenyl- (9CI) (CA INDEX NAME)				

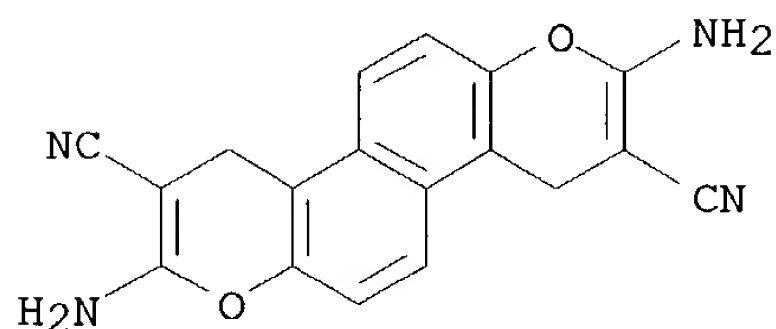


RN 164255-08-7 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran, 2,8-dihydro-2-(4-methoxyphenyl)-2-(2-methylphenyl)-8,8-diphenyl- (9CI) (CA INDEX NAME)

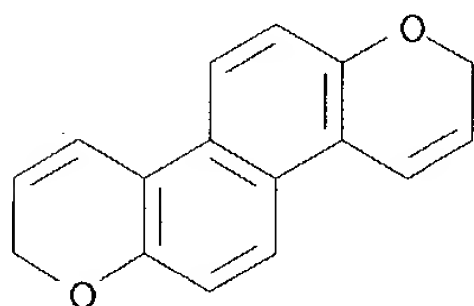
09/819,705



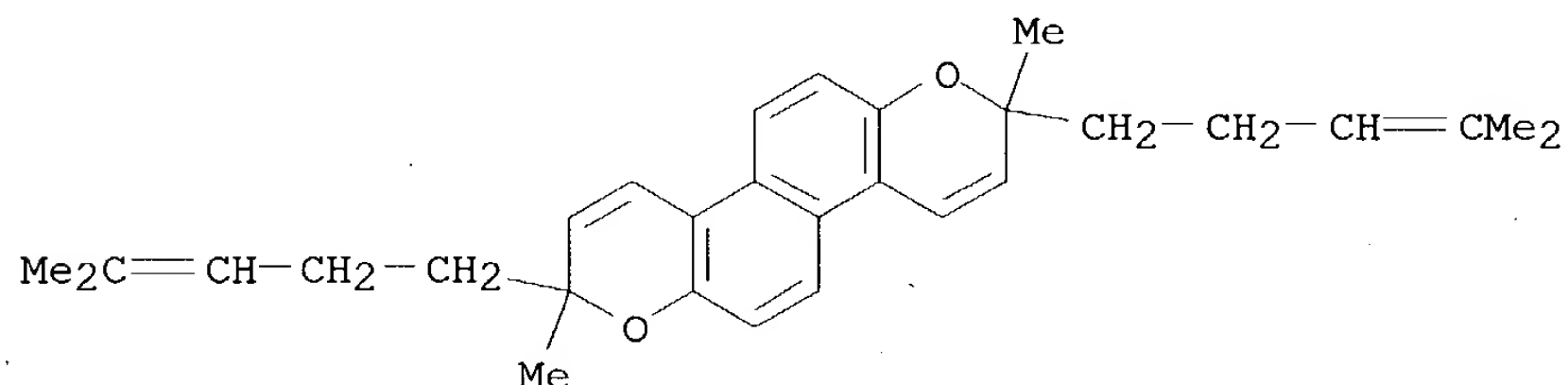
L6 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1993:233918 CAPLUS  
DN 118:233918  
TI Nitriles in heterocyclic synthesis. The reaction of polyhydric naphthalenes, 4-methylcoumarin-3-carbonitrile, and alkylidenemalononitrile with methylenemalononitrile  
AU Elagamey, Abdel Ghani Ali; El-Taweel, Fathy Mohamed Abdel Aziz; Khodeir, Mohamed Nabil Mohamed; Elnagdi, Mohamed Hilmy  
CS Chem. Dep., Fac. Sci., Damietta, Egypt  
SO Bulletin of the Chemical Society of Japan (1993), 66(2), 464-8  
CODEN: BCSJA8; ISSN: 0009-2673  
DT Journal  
LA English  
AB 2-Naphthol and naphthalenediols, e.g., 2,3-naphthalenediol, react with methylenemalononitrile, generated in situ from reaction of formaldehyde and malononitrile, to yield naphthopyrans, e.g., I, and naphthodipyran, e.g., II. 5-Hydroxynaphtho[2,1-b]pyrans III (R = 4-ClC<sub>6</sub>H<sub>4</sub>, 4-BrC<sub>6</sub>H<sub>4</sub>) reacted further with methylenemalononitrile to yield naphthodipyran IV. The reaction of methylenemalononitrile with 4-methylcoumarin-3-carbonitrile afforded benzopyrano[4,3-h]quinoline. 6-Cyanomethyl-3-pyridinecarbonitriles, prepared via reacting 1-arylethylidenemalononitriles with malononitrile, afforded 4H-quinolizines on treatment with methylenemalononitrile.  
IT **147441-09-6P**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 147441-09-6 CAPLUS  
CN Naphtho[2,1-b:6,5-b']dipyran-3,9-dicarbonitrile, 2,8-diamino-4,10-dihydro-(9CI) (CA INDEX NAME)



L6 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1985:220767 CAPLUS  
DN 102:220767  
TI Studies of Claisen rearrangement of bispropargyl ethers. Synthesis of naphthodipyrans, naphthodifurans and naphthofuopyrans  
AU Venugopalan, Bindumadhavan; Balasubramanian, Kalpattu Kuppuswamy  
CS Dep. Chem., Indian Inst. Technol., Madras, 600 036, India  
SO Heterocycles (1985), 23(1), 81-92  
CODEN: HTCYAM; ISSN: 0385-5414  
DT Journal  
LA English  
OS CASREACT 102:220767  
AB The Claisen rearrangement of dipropargyl ethers of naphthalene yields naphthodipyrans and naphthodifurans. Thus, 2,7-bis(propargyloxy)naphthalene (I), refluxed in PhNEt<sub>2</sub>, gave 79% naphthodipyrans II. Refluxed in (Me<sub>2</sub>N)<sub>3</sub>PO in the presence of NaHCO<sub>3</sub>, I gave naphthodifuran III. I also underwent stepwise rearrangement, first in (Me<sub>2</sub>N)<sub>3</sub>PO-NaHCO<sub>3</sub> to give naphthofuran IV which cyclized in PhNEt<sub>2</sub> to give furonaphthopyran V.  
IT **96549-58-5P**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 96549-58-5 CAPLUS  
CN Naphtho[2,1-b:6,5-b']dipyrans, 2,8-dihydro- (9CI) (CA INDEX NAME)

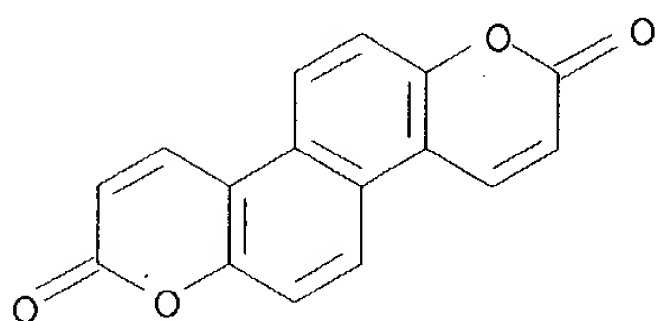


L6 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1975:156007 CAPLUS  
 DN 82:156007  
 TI Synthesis and crystal structure of 7,7a,8,9,11,11a-hexahydro-7,7,10-trimethyl-1,10-epoxy-10H-benz[de]anthracen-6-ol  
 AU Cannon, Jack R.; McDonald, Ian A.; Sierakowski, Andrew F.; White, Allan H.; Willis, Anthony C.  
 CS Sch. Chem., Univ. West. Australia, Nedlands, Australia  
 SO Australian Journal of Chemistry (1975), 28(1), 57-64  
 CODEN: AJCHAS; ISSN: 0004-9425  
 DT Journal  
 LA English  
 AB 3-Methyl-3-(4-methylpent-3-enyl)-3H-naphtho[2,1-b]pyran-9-ol (I) and -8-ol were prepared by condensation of citral with naphthalene-2,7-diol and -2,6-diol, resp. The 8-hydroxy compound sublimed unchanged but on heating I cyclization occurred yielding 7,7a,8,9,11,11a-hexahydro-7,7,10-trimethyl-1,10-epoxy-10H-benz[de]anthracen-6-ol (II). Crystals of II were monoclinic [C2/c, a = 21.934(5), b = 8.713(2), c = 19.849(4) Å;  $\beta$  = 127.78(2)°; Z = 8]. The crystal structure was determined at 295° K from diffractometer data [1350 reflections with I > 2 $\sigma$ (I)] and refined to a residual of 0.052.  
 IT **55181-95-8P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 55181-95-8 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran, 2,8-dihydro-2,8-dimethyl-2,8-bis(4-methyl-3-pentenyl)- (9CI) (CA INDEX NAME)

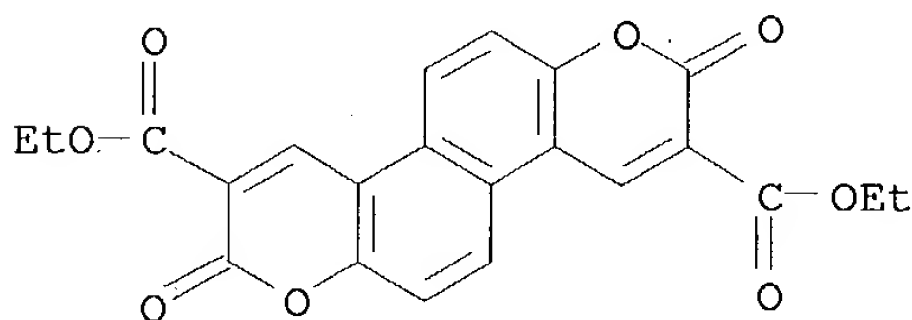




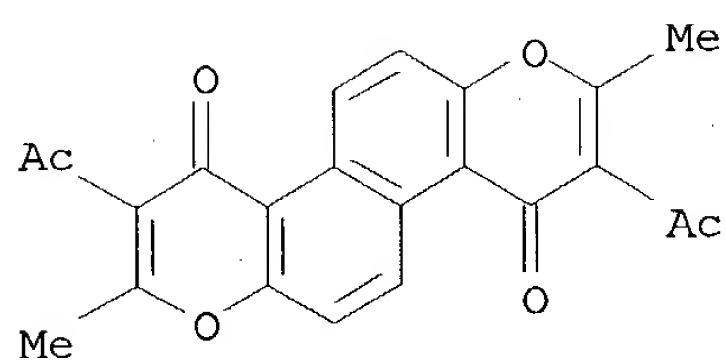
L6 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1973:136133 CAPLUS  
 DN 78:136133  
 TI Synthesis of  $\alpha$ - and  $\gamma$ -pyrone derivatives from  
 2,6-dihydroxynaphthalene  
 AU Kuriakose, A. P.; Sethna, Suresh  
 CS Dep. Chem., M. S. Univ. Baroda, Baroda, India  
 SO Journal of the Indian Chemical Society (1972), 49(11), 1155-9  
 CODEN: JICSAH; ISSN: 0019-4522  
 DT Journal  
 LA English  
 AB Pechmann condensation of 2,6-dihydroxynaphthalene with maleic acid gave  
 the naphthopyrone (I), which was formylated and then underwent a Perkin  
 reaction to give the naphthodipyrone II (R = H). II (R = H) was also  
 obtained by Perkin acetylation of 1,5-diformyl-2,6-dihydroxynaphthalene.  
 1-Formyl-2,6-dihydroxynaphthalene was condensed with EtO<sub>2</sub>CCH<sub>2</sub>CO<sub>2</sub>Et and the  
 product formylated followed by a Knoevenagel reaction with  
 EtO<sub>2</sub>CCH<sub>2</sub>CCH<sub>2</sub>CO<sub>2</sub>Et. Kostanecki-Robinson acetylation of  
 1,5-diacetyl-2,6-dihydroxynaphthalene gave the dimethylnaphthodipyrone  
 (III, R = AcO), which with concentrated H<sub>2</sub>SO<sub>4</sub> gave III (R = H).  
 IT **40569-93-5P 40569-99-1P 40570-00-1P**  
**40570-01-2P 40570-02-3P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 40569-93-5 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dione (9CI) (CA INDEX NAME)



RN 40569-99-1 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran-3,9-dicarboxylic acid, 2,8-dihydro-2,8-dioxo-  
 , diethyl ester (9CI) (CA INDEX NAME)

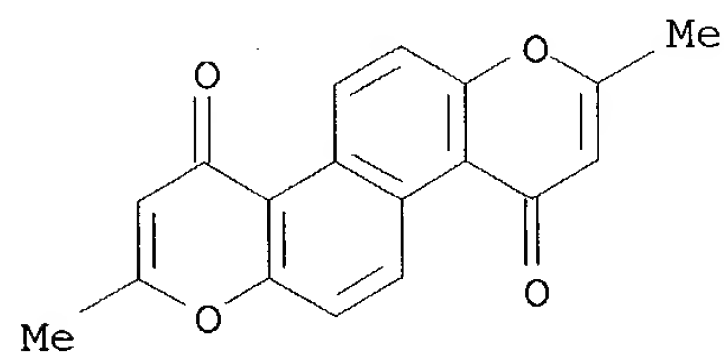


RN 40570-00-1 CAPLUS  
 CN Naphtho[2,1-b:6,5-b']dipyran-4,10-dione, 3,9-diacetyl-2,8-dimethyl- (9CI)  
 (CA INDEX NAME)



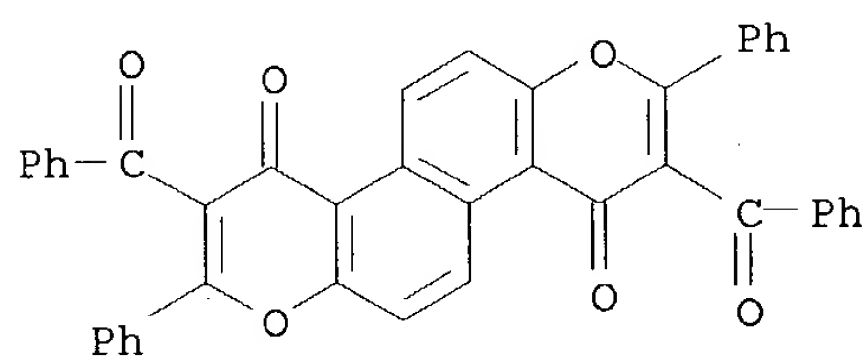
RN 40570-01-2 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans-4,10-dione, 2,8-dimethyl- (9CI) (CA INDEX NAME)



RN 40570-02-3 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans-4,10-dione, 3,9-dibenzoyl-2,8-diphenyl- (9CI) (CA INDEX NAME)



L6 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1972:539808 CAPLUS  
 DN 77:139808  
 TI Benzopyranobenzopyrans  
 IN Johnson, Peter Bennett; Lee, Thomas Brian  
 PA Fisons Ltd.  
 SO Ger. Offen., 28 pp.  
 CODEN: GWXXBX  
 DT Patent  
 LA German  
 FAN.CNT 1

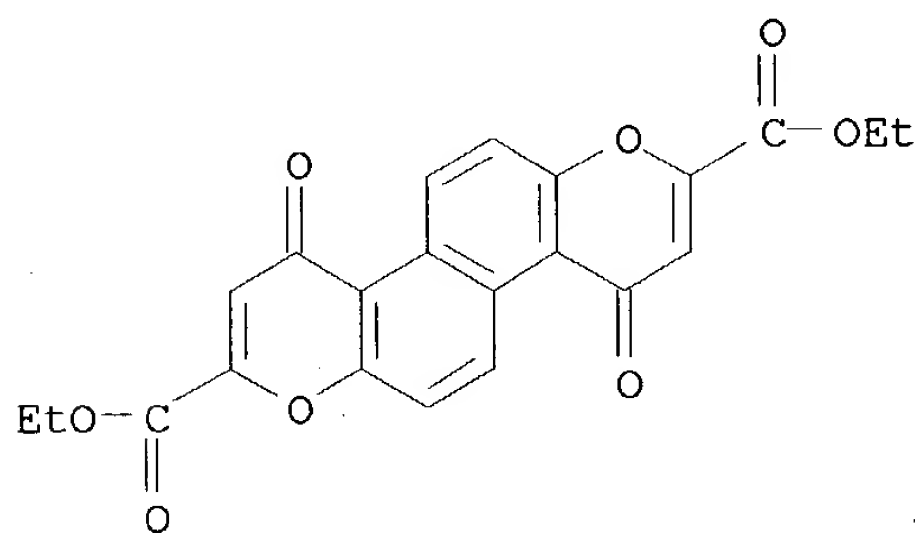
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	DE 2163869	A	19720720	DE 1971-2163869	19711222
	GB 1321879	A	19730704	GB 1970-61915	19701230
	IL 38310	A1	19750625	IL 1971-38310	19711207
	CA 964271	A1	19750311	CA 1971-130254	19711216
	FR 2120095	A5	19720811	FR 1971-47209	19711229
	FR 2120095	B1	19750613		
	CH 550784	A	19740628	CH 1971-19127	19711229
	NL 7118101	A	19720704	NL 1971-18101	19711230
PRAI	GB 1970-61915		19701230		

AB Three title compds. (I, II, and III; R = H or Na), useful as pharmaceuticals, were prepared starting from 2,6-, 2,7-, or 1,5-(AcO)2C10H6, resp., by treating with AlCl3, hydrolysis, and cyclization of the resulting dihydroxy derivs. followed by hydrolysis and (or) converting into the Na salt. Thus, 2,6-(AcO)2-C10H6 5, NaCl 5, and anhydrous AlCl3 25 parts were heated 4 hr at 140° to give 2.1 parts 2,6,1,5-(HO)2Ac2C10H4 (IV). IV 5, di-Et oxalate 15, and dioxane 200 parts were added to Na-EtOH and the mixture was refluxed 4 hr to give 1.1 parts I.0.5H2O (R = Et) (V). V was hydrolyzed and converted into the Na salt.

IT **37969-30-5P 37969-31-6P 38790-71-5P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)

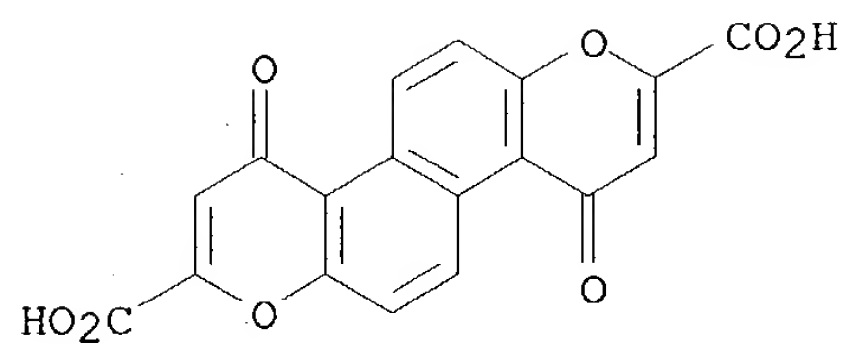
RN 37969-30-5 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans-2,8-dicarboxylic acid, 4,10-dihydro-4,10-dioxo-, diethyl ester (9CI) (CA INDEX NAME)



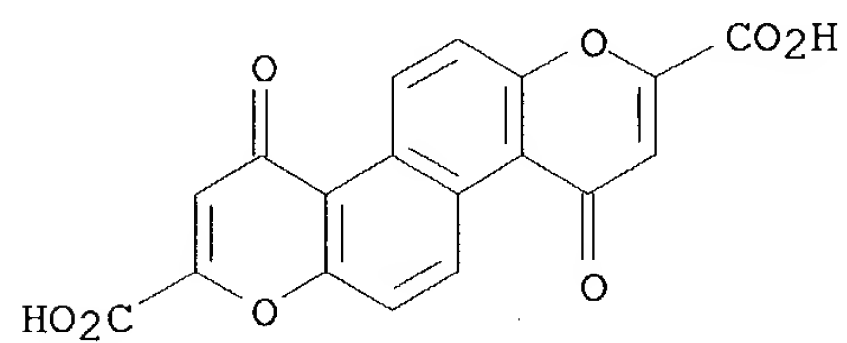
RN 37969-31-6 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyrans-2,8-dicarboxylic acid, 4,10-dihydro-4,10-dioxo- (9CI) (CA INDEX NAME)



RN 38790-71-5 CAPLUS

CN Naphtho[2,1-b:6,5-b']dipyran-2,8-dicarboxylic acid, 4,10-dihydro-4,10-dioxo-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

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=> => log y

COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

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223.13

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

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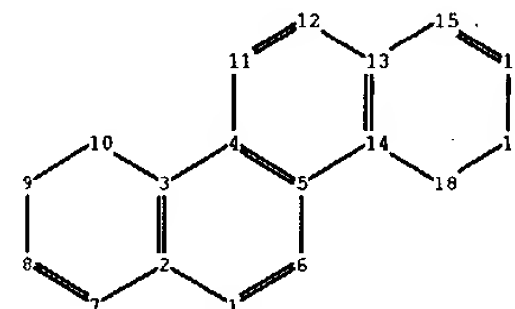
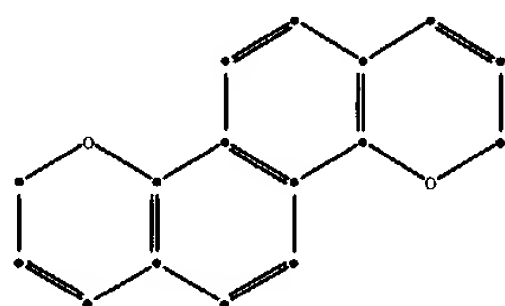
SESSION

CA SUBSCRIBER PRICE

-9.80

-9.80

STN INTERNATIONAL LOGOFF AT 17:06:45 ON 07 SEP 2004



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ring bonds :
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  12-13  13-14  13-15  14-18  15-16  16-17  17-18
exact bonds :
  2-7  3-10  7-8  8-9  9-10  13-15  14-18  15-16  16-17  17-18
normalized bonds :
  1-2  1-6  2-3  3-4  4-5  4-11  5-6  5-14  11-12  12-13  13-14
isolated ring systems :
  containing 1 :

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Match level :
  1:Atom  2:Atom  3:Atom  4:Atom  5:Atom  6:Atom  7:Atom  8:Atom  9:Atom
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 18:Atom

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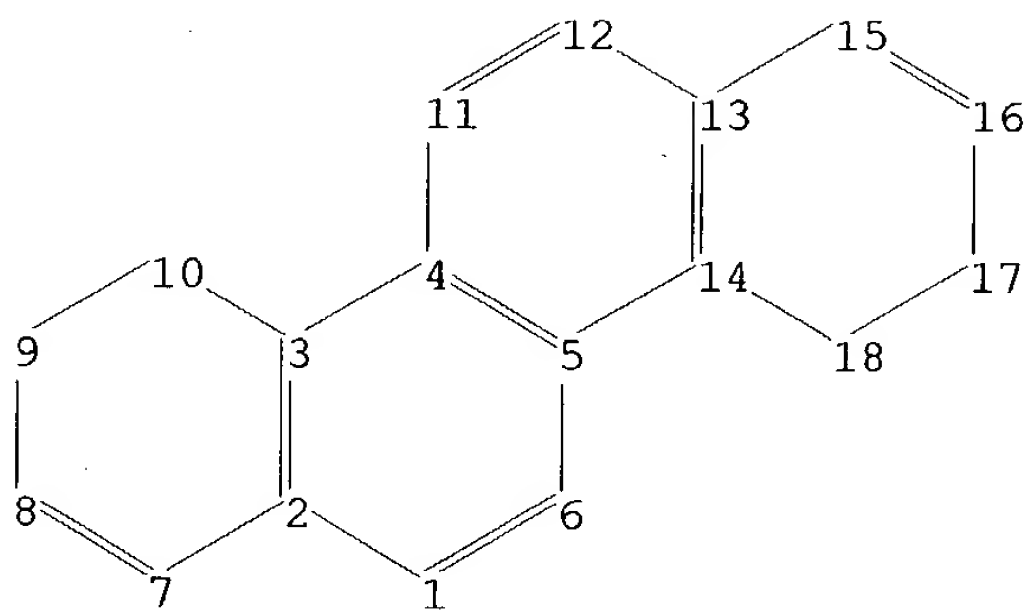
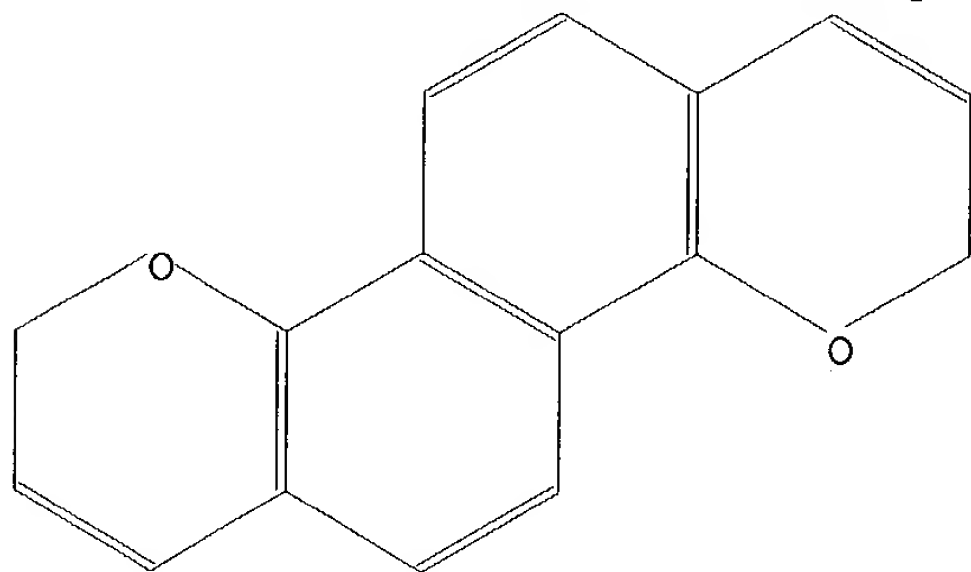
ENTER SCREEN EXPRESSION OR (END):end

=> screen 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047

L1 SCREEN CREATED

=>

Uploading C:\Program Files\Stnexp\Queries\09819705.str



ring nodes :

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ring bonds :

1-2 1-6 2-3 2-7 3-4 3-10 4-5 4-11 5-6 5-14 7-8 8-9 9-10 11-12 12-13  
13-14 13-15 14-18 15-16 16-17 17-18

exact bonds :

2-7 3-10 7-8 8-9 9-10 13-15 14-18 15-16 16-17 17-18

normalized bonds :

1-2 1-6 2-3 3-4 4-5 4-11 5-6 5-14 11-12 12-13 13-14

isolated ring systems :

containing 1 :

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 10:Atom  
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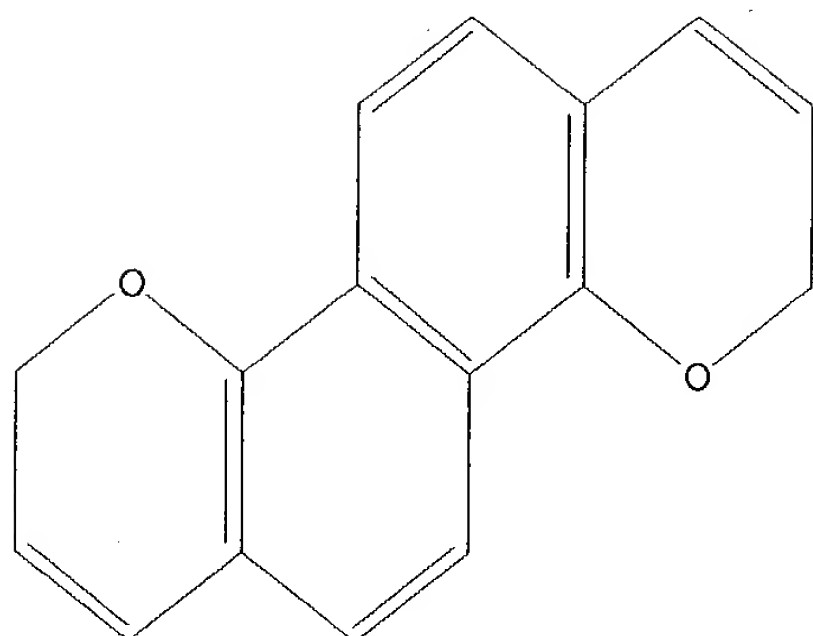
L3 QUE L2 NOT L1

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L3 HAS NO ANSWERS

L1 SCR 2016 OR 2026 OR 2039 OR 2040 OR 2045 OR 2047

L2 STR



Structure attributes must be viewed using STN Express query preparation.  
 L3 QUE L2 NOT L1

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 SAMPLE SEARCH INITIATED 16:55:20 FILE 'REGISTRY'  
 SAMPLE SCREEN SEARCH COMPLETED - 14 TO ITERATE

100.0% PROCESSED 14 ITERATIONS  
 SEARCH TIME: 00.00.01

0 ANSWERS

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*  
 BATCH \*\*COMPLETE\*\*  
 PROJECTED ITERATIONS: 56 TO 504  
 PROJECTED ANSWERS: 0 TO 0

L4 0 SEA SSS SAM L2 NOT L1

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 FULL SEARCH INITIATED 16:55:29 FILE 'REGISTRY'  
 FULL SCREEN SEARCH COMPLETED - 347 TO ITERATE

100.0% PROCESSED 347 ITERATIONS  
 SEARCH TIME: 00.00.01

6 ANSWERS

L5 6 SEA SSS FUL L2 NOT L1

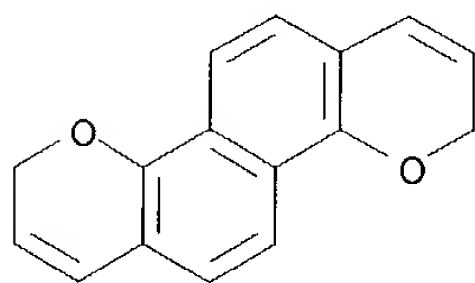
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L6 6 L5

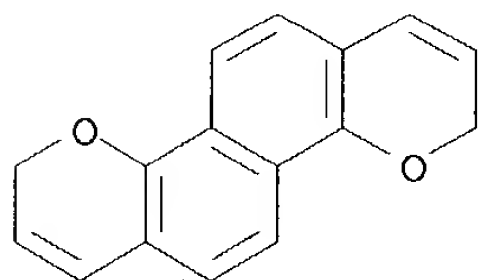
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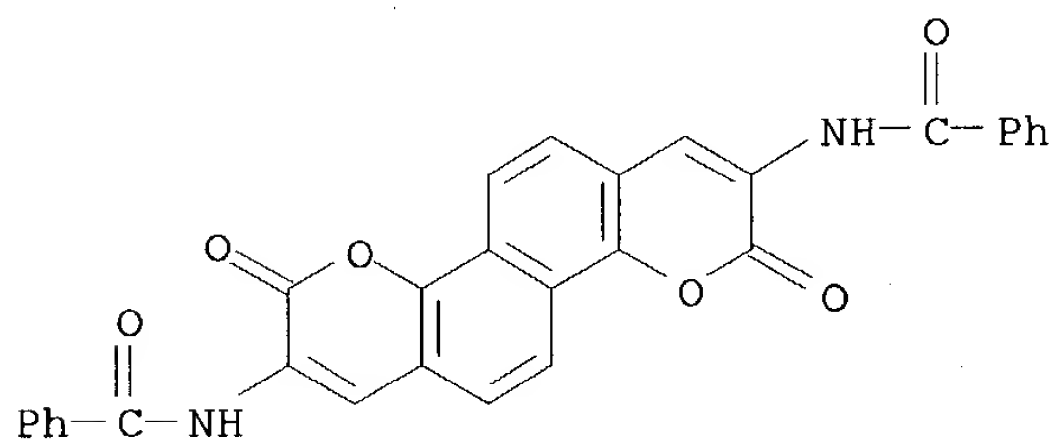
L6 ANSWER 1 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1996:514249 CAPLUS  
DN 125:221395  
TI Microwave promoted selective synthesis of naphthopyrans and naphthofurans:  
application to the synthesis of natural lapachenole  
AU Moghaddam, F. Matloubi; Sharifi, A.; Saidi, M. R.  
CS Dep. Chem., Sharif Univ. Technol., Teheran, 11365-9516, Iran  
SO Journal of Chemical Research, Synopses (1996), (7), 338-339  
CODEN: JRPSDC; ISSN: 0308-2342  
PB Royal Society of Chemistry  
DT Journal  
LA English  
OS CASREACT 125:221395  
AB Propargyl naphthyl ethers have been efficiently rearranged to  
naphthopyrans and naphthofurans under microwave irradiation  
IT **96549-59-6P**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(synthesis of natural lapachenole, naphthopyrans and naphthofurans via  
microwave promoted Claisen rearrangement of propargyl naphthyl ethers)  
RN 96549-59-6 CAPLUS  
CN Naphtho[1,2-b:5,6-b']dipyrans, 3,9-dihydro- (9CI) (CA INDEX NAME)



L6 ANSWER 2 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1995:460682 CAPLUS  
DN 123:111887  
TI A novel method for synthesis of naphthofurans and naphthodifurans  
AU Saidi, M. R.; Firouzezare, M.  
CS Department Chemistry, Sharif University Technology, Teheran, Iran  
SO Journal of Sciences, Islamic Republic of Iran (1994), 5(1,2), 39-42  
CODEN: JSIIEI; ISSN: 1016-1104  
PB National Center for Scientific Research  
DT Journal  
LA English  
AB Thermal rearrangement of propargyl naphthyl ethers produced naphthopyrans.  
In the presence of sodium methoxide, propargyl naphthyl ethers were  
converted easily to naphthofurans and naphthodifurans in good yields.  
IT **96549-59-6P**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 96549-59-6 CAPLUS  
CN Naphtho[1,2-b:5,6-b']dipyrans, 3,9-dihydro- (9CI) (CA INDEX NAME)



L6 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1992:612351 CAPLUS  
 DN 117:212351  
 TI Methyl 2-benzoylamino-3-dimethylaminopropenoate in the synthesis of heterocyclic systems. A simple synthesis of amino derivatives of isomeric naphthopyranones and naphthodipyranones  
 AU Ornik, Brina; Stanovnik, Branko; Tisler, Miha  
 CS Dep. Chem., Univ. Ljubljana, Ljubljana, 61001, Slovenia  
 SO Journal of Heterocyclic Chemistry (1992), 29(4), 831-4  
 CODEN: JHTCAD; ISSN: 0022-152X  
 DT Journal  
 LA English  
 OS CASREACT 117:212351  
 AB A simple synthesis of the amino derivs. of 3H-naphtho[2,1-b]pyran-3-one, e.g., I (R1 = R2 = H, R3 = H, OH, SO3Na, R4 = H, SO3Na; R1, R2 = H, OH, R3 = R4 = H), 2H-naphtho[1,2-b]pyran-2-ones, e.g., II, 2H,6H-naphtho[1,2-b:3,4-b']dipyran-2,6-dione (III), 2H,11H-naphtho[2,1-b:3,4-b']dipyran-2,11-dione, and 3H,9H-naphtho[1,2-b:5,6-b']dipyran-3,9-dione from the reaction of the corresponding monohydroxynaphthalenes, dihydroxynaphthalenes, and tetralones with Me 2-benzoylamino-3-dimethylaminopropenoate in acetic acid is described.  
 IT **144140-46-5P**  
 RL: SPN (Synthetic preparation); PREP (Preparation)  
 (preparation of)  
 RN 144140-46-5 CAPLUS  
 CN Benzamide, N,N'-(3,9-dihydro-3,9-dioxonaphtho[1,2-b:5,6-b']dipyran-2,8-diyl)bis- (9CI) (CA INDEX NAME)



L6 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1988:456573 CAPLUS  
 DN 109:56573  
 TI Manufacture of photochromic dyes for photoreactive lenses  
 IN Heller, Harry George; Oliver, Stephen Nigel; Whittall, John; Brettle, Jack; Baskerville, Martin W.; Trundle, Clive  
 PA Plessey Co. PLC, UK  
 SO Eur. Pat. Appl., 31 pp.  
 CODEN: EPXXDW  
 DT Patent  
 LA English  
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 250193	A2	19871223	EP 1987-305288	19870615
	EP 250193	A3	19900117		
	EP 250193	B1	19931027		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	AT 96436	E	19931115	AT 1987-305288	19870615
	IN 170758	A	19920516	IN 1987-DE514	19870616
	CA 1306643	A1	19920825	CA 1987-539840	19870616
	AU 8774416	A1	19871224	AU 1987-74416	19870617
	AU 598273	B2	19900621		
	CN 87104827	A	19880302	CN 1987-104827	19870617
	BR 8703053	A	19880308	BR 1987-3053	19870617
	US 4818096	A	19890404	US 1987-63054	19870617
PRAI	GB 1986-14680		19860617		
	EP 1987-305288		19870615		

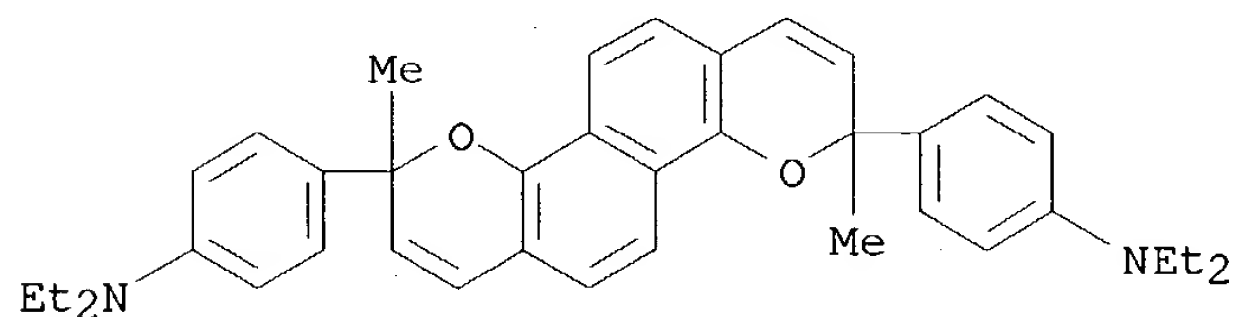
AB Photoreactive lenses, which darken in sunlight and revert to a pale or colorless condition in white light which does not have a UV component, are prepared by coating the lens with an atom adamantane spirobenzopyran or spironaphthapyran in which the adamantane group is present in the 2-spiro position of the benzopyran or naphthopyran ring and I [R = alkyl, (un)substituted aryl; R1 = H, alkyl, halogen, aryl, hydroxy, alkoxy, alkylamino, dialkylamino, heterocyclic ring, benzannelated ring; X = aryl group having a N-containing substituent). The combination of the yellow/orange coloring adamantane 2-spiropyran compound with the blue/purple coloring I gives a desired brown/grey coloration in the sunlight-darkened lens. p-Pyrrolidinophenylpropargyl alc. reacted with 1-naphthol forming 2-methyl-2-pyrrolidonophenylbenzochronene which irradiated with UV had  $\lambda_{\max}$  (CHCl<sub>3</sub>) 554 nm.

IT **115497-65-9P**

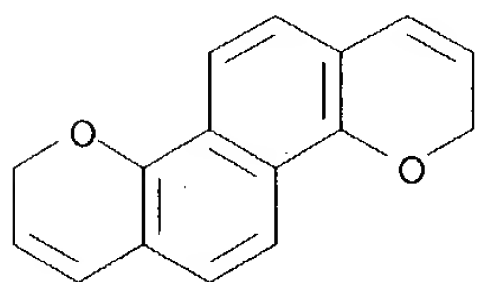
RL: IMF (Industrial manufacture); PREP (Preparation)  
 (manufacture of, as photochromic dye)

RN 115497-65-9 CAPLUS

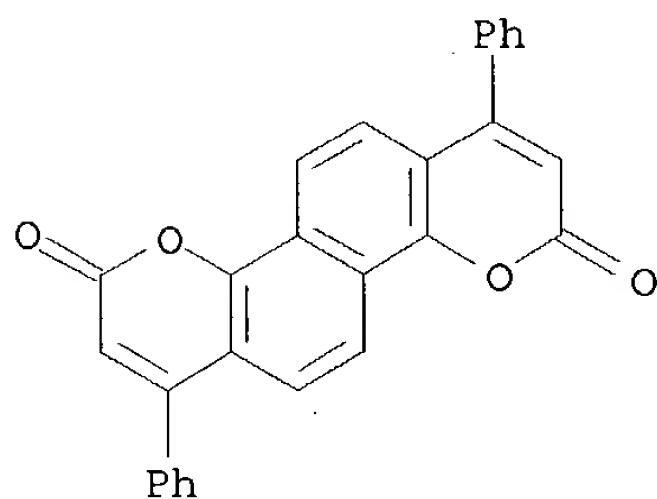
CN Benzenamine, 4,4'-(3,9-dihydro-3,9-dimethylnaphtho[1,2-b:5,6-b']dipyran-3,9-diyl)bis[N,N-diethyl- (9CI) (CA INDEX NAME)



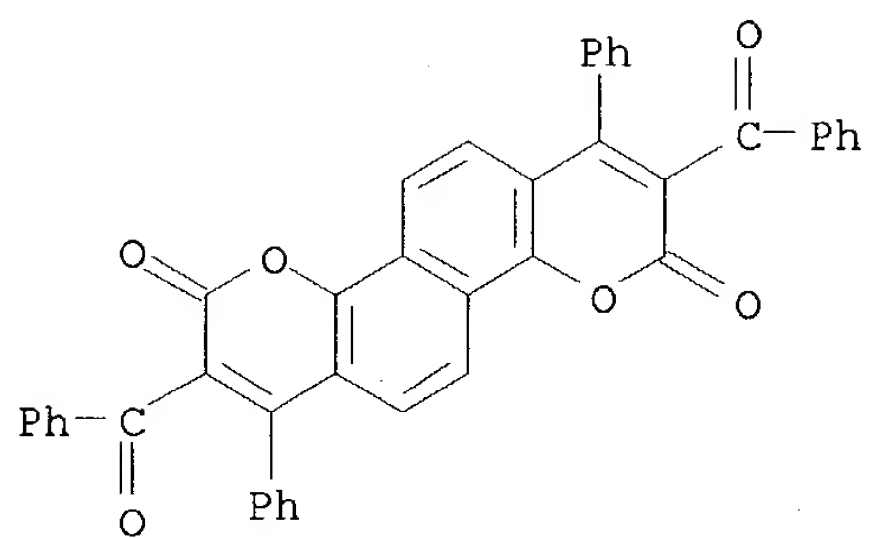
L6 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
AN 1985:220767 CAPLUS  
DN 102:220767  
TI Studies of Claisen rearrangement of bispropargyl ethers. Synthesis of  
naphthodipyrans, naphthodifurans and naphthofuopyrans  
AU Venugopalan, Bindumadhavan; Balasubramanian, Kalpattu Kuppuswamy  
CS Dep. Chem., Indian Inst. Technol., Madras, 600 036, India  
SO Heterocycles (1985), 23(1), 81-92  
CODEN: HTCYAM; ISSN: 0385-5414  
DT Journal  
LA English  
OS CASREACT 102:220767  
AB The Claisen rearrangement of dipropargyl ethers of naphthalene yields  
naphthodipyrans and naphthodifurans. Thus, 2,7-  
bis(propargyloxy)naphthalene (I), refluxed in PhNEt<sub>2</sub>, gave 79%  
naphthodipyran II. Refluxed in (Me<sub>2</sub>N)<sub>3</sub>PO in the presence of NaHCO<sub>3</sub>, I  
gave naphthodifuran III. I also underwent stepwise rearrangement, first  
in (Me<sub>2</sub>N)<sub>3</sub>PO-NaHCO<sub>3</sub> to give naphthofuran IV which cyclized in PhNEt<sub>2</sub> to  
give furonaphthopyran V.  
IT **96549-59-6P**  
RL: SPN (Synthetic preparation); PREP (Preparation)  
(preparation of)  
RN 96549-59-6 CAPLUS  
CN Naphtho[1,2-b:5,6-b']dipyran, 3,9-dihydro- (9CI) (CA INDEX NAME)



L6 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2004 ACS on STN  
 AN 1964:45584 CAPLUS  
 DN 60:45584  
 OREF 60:7978f-h  
 TI New synthesis of naphtho[1,2-b]pyran-2-ones  
 AU Woods, L. L.; Sterling, J.  
 CS Texas Southern Univ., Houston  
 SO Journal of Organic Chemistry (1964), 29(2), 502-4  
 CODEN: JOCEAH; ISSN: 0022-3263  
 DT Journal  
 LA Unavailable  
 AB Condensation of 1-naphthol (I) and 1,4-, and 1,5-naphthalenediols (II) with  $\beta$ -oxo esters in the presence of  $\text{CF}_3\text{CO}_2\text{H}$  (III) afforded various naphtho[1,2-b]pyran-2-ones (IV). With III as catalyst I could not be condensed with  $\text{BzCH}_2\text{CO}_2\text{Et}$ ; however, 2 equivs. II condensed smoothly and in high yield to form a new compound (V). The infrared, ultraviolet, and fluorescence spectral characteristics of V were given. A C-acylation method was used to prepare suitable derivs. of IV. The benzoyl group presumably entered the 3-position except for IV ( $\text{R} = \text{CH}_2\text{Ph}$ ,  $\text{R}_1 = \text{Me}$ ,  $\text{R}_2 = \text{R}_3 = \text{H}$ , and  $\text{R} = \text{R}_1 = \text{Me}$ ,  $\text{R}_2 = \text{R}_3 = \text{H}$ ) in which substitution of the naphthalene 6-position was expected.  
 IT **97298-35-6**, 2,6-Naphthalenediacrylic acid, 1,5-dihydroxy- $\beta,\beta'$ -diphenyl-(?), di- $\delta$ -lactone **97924-52-2**, 2,6-Naphthalenediacrylic acid,  $\alpha,\alpha'$ -dibenzoyl-1,5-dihydroxy- $\beta,\beta'$ -diphenyl-(?), di- $\delta$ -lactone (preparation of)  
 RN 97298-35-6 CAPLUS  
 CN 2,6-Naphthalenediacrylic acid, 1,5-dihydroxy- $\beta,\beta'$ -diphenyl-, di- $\delta$ -lactone (7CI) (CA INDEX NAME)



RN 97924-52-2 CAPLUS  
 CN 2,6-Naphthalenediacrylic acid,  $\alpha,\alpha'$ -dibenzoyl-1,5-dihydroxy- $\beta,\beta'$ -diphenyl-, di- $\delta$ -lactone (7CI) (CA INDEX NAME)



=&gt; e melzig/in

E1	1	MELZI E/IN
E2	2	MELZI MARIO/IN
E3	0 -->	MELZIG/IN
E4	3	MELZIG JOACHIM/IN
E5	43	MELZIG MANFRED/IN
E6	2	MELZL MICHAEL/IN
E7	7	MELZNER DIETER/IN
E8	2	MELZNER EDGAR/IN
E9	6	MELZNER HANNO/IN
E10	2	MELZOBS M/IN
E11	1	MELZOBS MODRIS/IN
E12	2	MELZSCH KAREL/IN

=&gt; s e5

L7 43 "MELZIG MANFRED"/IN

=&gt; s photochromic

L8 9913 PHOTOCHROMIC

=&gt; s 17 and 18

L9 41 L7 AND L8

=&gt; s chrysen?

L10 11486 CHRYSEN?

=&gt; s 110 and 19

L11 0 L10 AND L9

=&gt; s asymmetrical and 19

2436 ASYMMETRICAL

L12 0 ASYMMETRICAL AND L9

=&gt; log y

COST IN U.S. DOLLARS

SINCE FILE	TOTAL
ENTRY	SESSION
38.48	194.11

FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE	TOTAL
ENTRY	SESSION
-4.20	-4.20

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